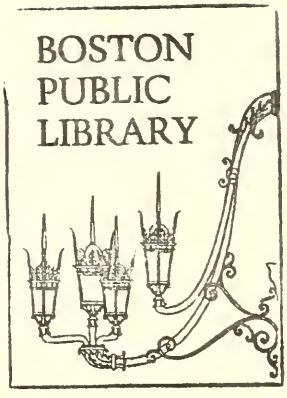
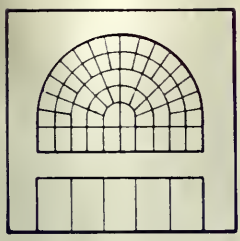
BOSTON PUBLIC LIBRARY
3 9999 06316 634 0
2431


BOSTON
PUBLIC
LIBRARY

Government Documents
BRA
2431



PUBLIC LIBRARY

RUGGLES CENTER PLAZA

BOSTON REDEVELOPMENT AUTHORITY

PROPOSAL FOR LANDSCAPE ARCHITECTURE & ENGINEERING SERVICES

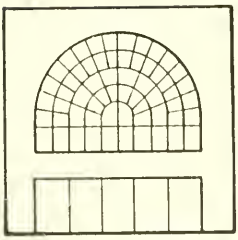
PAUL C.K. LU & ASSOCIATES
Landscape Architects, Boston

PARSONS BRINCKERHOFF, INC.
Engineers, Boston

STULL & LEE, INC.
Urban Design, Boston

HALEY & ALDRCH, INC.
Geotechncal, Cambridge

BRYANT ASSOCIATES
Surveyors, Boston



RUGGLES CENTER PLAZA

BOSTON REDEVELOPMENT AUTHORITY

PROPOSAL FOR LANDSCAPE ARCHITECTURE & ENGINEERING SERVICES

PAUL C.K. LU & ASSOCIATES
Landscape Architects, Boston

PARSONS BRINCKERHOFF, INC.
Engineers, Boston

STULL & LEE, INC.
Urban Design, Boston

HALEY & ALDRCH, INC.
Geotechncal, Cambridge

BRYANT ASSOCIATES
Surveyors, Boston

PAUL C. K. LU AND ASSOCIATES

134 Beach Street Boston, Massachusetts 02111 (617) 484-4022

April 19, 1990

Mr. David A. Carlson
Acting Deputy Director, Engineering & Design
Boston Redevelopment Authority
City Hall
One City Hall Square, Room 943
Boston, MA 02201

RE: RUGGLES CENTER PLAZA

Mission statement: It is the mission of the design team to meet fully the BRA's design and construction schedule by producing landscape architecture and engineering design contract documents that a) are high quality, b) incorporate architectural, urban design, landscape, and engineering concerns, c) addresses public concerns, d) assures a project of civic importance.

Dear Mr. Carlson:

We are pleased to submit this proposal for landscape architecture and engineering design services for the Ruggles Center Plaza Project.

The award winning firm of Paul C.K. Lu & Associates practices landscape architecture, urban design, and planning. To date we have received 15 national and international design awards for past public and private sector projects. Throughout the eastern United States, public entities and private developers have utilized our firm for its innovative design approach, ability to conduct public presentations and workshops, commitment to cost effective construction management, and timely project completion.

The project team of Paul C.K. Lu & Associates (MBE), Project Landscape Architects, Parsons Brinckerhoff Quade & Douglass, Project Engineers, Stull & Lee (MBE), Urban Design Consultants, Haley and Aldrich, Geotechnical Consultants, and Bryant Associates (MBE), Project Surveyors represents a solid and dedicated Boston based team of consultants.

Our extensive experience in the design and construction of public open space and transportation facilities, as illustrated in the enclosed materials, coupled with our proven ability to facilitate public sector and private sector interests, and experience on the Parcel 18 development site, makes our team uniquely qualified to undertake this project.

We welcome the design challenges presented by this project and look forward to the opportunity to present our qualifications to the Boston Redevelopment Authority.

Sincerely,

On Behalf of the Project Team

Paul C.K. Lu , ASLA, AIA, APA
for
Paul C.K. Lu & Associates

P09-90

CONTENTS

SECTION I - QUALIFICATIONS

- o Introduction To Paul C.K. Lu & Associates
- o Professional Awards
- o Key Project Personnel
- o Built Projects & Related Projects
- o Project Experience
  - Urban Planning & Design
  - Open Space Planning & Design
  - Transportation Planning & Design
  - Industrial/Commercial Planning & Design
- o Sub–consultant Qualifications
  - Project Qualifications & Resume's

SECTION II - SCOPE & FEE PROPOSAL

- o Key Issues And Approach
- o Project Responsibilities
- o Scope of Services
- o Fee Proposal
- o Billing Rates

SECTION III - STANDARD FORMS

MBE Certification
Affirmative Action Policy Statement
Standard Forms 254 & 255

SECTION IV - CLIENT REFERENCES

SECTION I

QUALIFICATIONS

INTRODUCTION TO THE FIRM

The award winning, minority owned firm of Paul C. K. Lu and Associates practices architecture, landscape architecture, planning, urban design, and environmental analysis.

The office is based on a core of multidisciplinary design and planning professionals, each contributing unique skills to collective project efforts of varying size and complexity.

At Paul C.K. Lu and Associates . . .

We pride ourselves in our ability to produce high quality design and planning products within budget in a timely and cost effective manner.

For our efforts to date we have earned 15 national and international design awards for clients in both the public and private sectors. Further, we are a certified SOMBA/MBE.

Each of us takes personal pride in the team's creative efforts. Our guiding philosophy is to create outstanding work using a 'process oriented method.' This approach to planning, design, and implementation includes the following steps:

- o Analysis of the project's opportunities and constraints, the natural environment, and the political framework.
- o Interpretation and clarification of the client's needs to develop a workable program and timeframe.
- o Development of several specific design schemes to explore the project's potential and to examine relative costs and phasing.
- o Efficient production of contract documents by our staff and consultants for design implementation and owner occupancy.

The process oriented framework allows flexibility for both client and potential user involvement, while facilitating an orderly flow through the planning phases.

More specifically, our areas of expertise include:

- **o Open Space Planning and Design**
- **o Urban Planning and Design**
- **o Industrial/Commercial Planning and Design**
- **o Institutional Planning and Design**
- **o Housing/New Community Planning and Design**
- **o Religious Buildings Planning and Design**
- **o Health Care Facilities Planning and Design**
- **o Transportation Facilities Planning and Design**

Our cumulative experience at Paul C.K. Lu and Associates includes projects throughout the United States of America and abroad - Arkansas, District of Columbia, Florida, Kansas, Maine, Maryland, Massachusetts, Missouri, New Hampshire, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Virginia, Canada, Japan, China, Pakistan and Dominican Republic.

PROFESSIONAL AWARDS

National Honor Award
Urban Environmental Design, Western Canal Beautification, Lowell, Massachusetts. Sponsored by H.U.D., Washington D.C.

First Prize Winner
International Medium Density Low-Rise Housing Design Competition, Tokyo, Japan. Sponsored by Japan Architects, Inc., Tokyo Japan.

National Honor Award
Urban Design , Ecumenical Plaza, Lowell, Massachusetts. Sponsored by H.U.D., Washington D.C.

National Merit Award
West Broadway Housing Renewal Project, Boston Housing Authority, South Boston, Massachusetts. Sponsored by Progressive Architecture.

National Honorable Mention
West Palm Beach Waterfront Design Competition, West Palm Beach, Florida. Sponsored by the City of West Palm Beach, Florida.

Merit Award
Vietnam Veterans Memorial Design Competition, Washington, D.C. Selected as one of 44 merit awards from 1,451 submissions. Sponsored by Viet Nam Veterans Memorial Fund Inc., Washington D.C.

National Prize Winner
The National Urban Design and Landscape Architecture Competition for "St. Louis Gateway Mall Design." Fourth Prize Winner. Sponsored by Downtown St. Louis Inc., St. Louis, MO.

Finalist
Pioneer Courthouse Square Competition, Portland, Oregon. Sponsored by City of Portland, OR.

National Honor Award
Charles River Park Synagogue, Boston, Massachusetts. Sponsored by H.U.D., Washington D.C.

Honor Award
Landscape Architectural Design, Transportation Facilities Design, Hay Street Transit Mall, Fayetteville, N.C. Sponsored by North Carolina Chapter of A.S.L.A.

National Merit Award
Park and Recreation Planning/Design, Western Canal Park, Lowell, Massachusetts. Sponsored by A.S.L.A.

First Prize Winner
Corliss Landing Redevelopment Project Competition. Sponsored by the Marathon Development Corporation, Providence, R.I.

National Award
Lowell Downtown Development, National Recognition Program for Community Development Partnerships, Lowell, MA. Sponsored by H.U.D., Washington D.C.

Honor Award
Landscape Architectural Design / Historic Preservation and Restoration, Columbia Riverfront Park, Columbia, S.C. Sponsored by North Carolina Chapter of A.S.L.A.

National Honorable Mention
State of Maryland Vietnam Veterans Memorial Open Design Competition. Sponsored by State of Maryland and the Maryland Viet Nam Veterans Memorial Commission, Baltimore, MD.

KEY PROJECT PERSONNEL

Paul C.K. Lu & Associates

PRINCIPAL IN CHARGE / PROJECT DESIGNER

o Paul C.K. Lu, ASLA, AIA, APA

Mr. Lu brings to the design team over 20 years of design experience in public and private sector projects. In addition to design and coordination of complex open space and plaza projects, Mr. Lu has indispensable experience in public presentations and workshops to generate public support for a project and expedite the approval process.

PROJECT MANAGER

o Christian Brown, ASLA

Mr. Brown has served as Project Manager on a wide range of assignments with Paul C.K. Lu & Associates. With a specialty in open space design and construction implementation of public sector projects, Mr. Brown has managed the successful completion of several projects in the Boston Area.

PROJECT LANDSCAPE ARCHITECT

o Roberto C. Garcia, ASLA

Registered landscape architect with extensive experience in all aspects of design on a variety of projects ranging from urban parks and plazas to transportation facilities and large scale commercial developments.

PROJECT STAFF

o Carolyn Cooney - Landscape Architect

o Ivy Ng - Landscape Designer

Parsons Brinckerhoff, Inc.
Consulting Engineers

o Principal: Morris S. Levy, P.E.

Mr. Levy currently directs all planning and design activities in New England for the firm. He brings expertise in scheduling and implementation of site engineering services for a variety of development projects in the Boston area including Copley Place, Post Office Square Garage/Park, 75 State Street and the North Station Project.

o Project Manager: Andrew Boyd, P.E.

Mr. Boyd has over 15 years of civil/site engineering experience for a variety of Boston projects including Copley Place, Prudential Center, Rowes Wharf and 75 State Street development projects. He brings in-depth experience in the areas of design, agency review, and implementation of roadway and site improvements in urban areas.

o Project Engineer: Raymond Oro, P.E.

Mr. Oro has over 20 years of civil and site engineering experience for roadway and utility projects including Marginal Street reconstruction, Copley Place and 75 State street development projects.

KEY PROJECT PERSONNEL cont'd

Stull & Lee, Inc.
Urban Designers

o Principal: M. David Lee, AIA
Mr. Lee, Vice President, Architect/Urban Designer, will be principal in charge of firm's work on this project. He will serve as urban design advisor and be available to assist in public review & participation process.

o Project Manager Urban Design: Elmo Ortiz
Mr. Ortiz, Associate, Architect/Urban Designer will be the project manager for Stull & Lee's participation. He will continue his active role as senior urban designer for the Ruggles Center Master Plan and will also be available to assist in review and coordination.

o Architect: Tom Beddall
Mr. Beddall, Senior Architect, currently is involved in the Ruggles Center Master Plan project as Job Captain and will be available as a technical liaison between the Plaza Project and development sites.

Haley & Aldrich, Inc.
Geotechnical Consultants

o Principal In Charge / Project Manager: Martin C. Murphy, P.E.
Mr. Murphy has served as project manager for the geotechnical engineering aspects of a wide variety of projects in the Boston area over the past 35 years. Projects have involved buildings, bridges, roads, utilities and large developments in both the public and private sector.

Bryant Associates
Surveyors

o Project Manager: Norman I. Lipsitz RLS
Mr. Lipsitz, Chief of Surveys & Project Manager brings more than 20 years of experience in all phases of land surveying to the project. He is responsible for survey personnel, deed research, office calculations, and survey plans at Bryant Associates.

Please also see resume's for all project team members

PAUL C. K. LU, ASLA, AIA, APA

EDUCATION

Harvard University, Graduate School of Design,
Master of Landscape Architecture , 1967
Kansas State University, School of Architecture and Design,
Master of Architecture, 1962
Kansas State University, School of Architecture and Design,
Bachelor of Architecture, 1958
Chung-King University, College of Engineering (Taiwan, Formosa),
Bachelor of Science in Architectural Engineering, 1954
Massachusetts Institute of Technology, Department of Planning,
Urban Design & Visual Analysis Special Studies, 1966
University of Wisconsin - Extension, Department of Engineering,
Extension Courses, Land Reclamation & Land Planning Special Studies Certificate, 1973 & 1974
Boston University, Metropolitan College, Dept. of Urban Affairs,
Urban Planning & Transportation Special Studies, 1976, 1977

AFFILIATIONS

Member, American Institute of Architects; Member, American Society of Landscape Architects; Member, American Planning Association; Member, Society of College and University Planning; Member, American Hospital Association; Member, Institute of Urban Design; Member, Metropolitan Association of Urban Designers and Environmental Planners; Member, New England Solar Energy Association.

REGISTRATIONS

Registered Landscape Architect, Massachusetts, North Carolina, Rhode Island, Maryland, Kansas, Connecticut, Delaware, South Carolina; Registered Architect, Massachusetts, North Carolina, South Carolina; Certificate -National Council of Architectural; Registration Boards (NCARB); Certificate-National Council of Landscape Architecture Registration Boards (CLARB).

HONORS AND AWARDS

Winner of fifteen (15) National and International Planning and Design Awards
(see separate sheet for Professional Awards)
Member Tau Sigma Delta, National Honor Society in Architecture and
Allied Arts, Omecron Chapter
Member Delta Phi Delta, National Honor Fraternity of Fine Arts
Harvard University, three consecutive Scholastic Awards
Kansas State University, three consecutive Scholastic Awards
Kansas State University Distinguished Alumni Award

VISITING CRITIC AND LECTURER

Harvard University, Graduate School of Design and Continuing Education; University of Massachusetts; Boston Architectural Center; Kansas State University; University of Georgia; Tulane University; Louisiana State University; Radcliff College; Rhode Island School of Design; University of North Carolina; University of Virginia; University of Maryland

PROFESSIONAL EXPERIENCE

Paul C. K. Lu and Associates
Professor, (part-time) University of Maryland
Professor, University of North Carolina
Visiting Professor, University of North Carolina at Charlotte
Adjunct Professor, Rhode Island School of Design
Sasaki Associates, Inc., Watertown, MA
Victor Gruen Associates, Architects and Planners, NY
Katz, Waisman, Weber, Struss, Architects and Engineers, NY
Joseph Bluemenkranz and Associates, Consulting Architects, NY
C. B. Mayers Associates, Architects and Engineers, NY
Shaughnessey, Bower and Grimaldi, Architects, Kansas City, Missouri
Dan Sanford & Sons, Architects, Kansas City, Missouri
Manual Morris Associates, Architects, Kansas City, Missouri

AREAS OF EXPERTISE

During his 30 years of experience Mr. Lu's efforts have been devoted largely to the following areas of expertise throughout the United States and abroad.

- **Open Space Planning and Design**
- **Urban Planning and Design**
- **Industrial/Commercial Planning and Design**
- **Institutional Planning and Design**
- **Housing/New Community Planning and Design**
- **Religious Buildings Planning and Design**
- **Health Care Facilities Planning and Design**
- **Transportation Facilities Planning and Design**

AREA OF RESPONSIBILITY

Principal owner of the firm with responsibilities for administration, project planning, and design.

CHRISTIAN L. BROWN, ASSOCIATE

EDUCATION

University of Massachusetts, Bachelor of Science
- Environmental Design/Landscape Architecture, 1978

AFFILIATIONS

American Society of Landscape Architects

PROFESSIONAL EXPERIENCE

Paul C. K. Lu and Associates
Walter Brain Associates, Concord, Massachusetts

PROJECT EXPERIENCE

- **Winchester Center Urban Design Phase I and II, Winchester, MA**
  For the City of Winchester, Massachusetts
- **Newton Village Study, Newton, MA**
  For the City of Newton, Massachusetts
- **Fitchburg Hi-Tech Center, Fitchburg, MA**
  For Fitchburg Economic Redevelopment Agency, Fitchburg, MA
- **Moore Square Area Improvements, Raleigh, North Carolina**
  For the City of Raleigh, North Carolina
- **West Broadway Public Housing Renewal Project, Boston, MA**
  For Boston Housing Authority, Boston, Massachusetts
- **Concord Playfields Improvement Program, Concord, MA**
  For the Concord Recreation Department, Concord, Massachusetts
- **University of Massachusetts Comprehensive Facilities Plan, Boston, MA**
  For Seelye, Stevenson, Value & Knecht, Engineers, Boston, MA
- **Lynn Heritage State Park Site Design, Lynn, MA**
  For the Department of Environmental Management, Boston, MA
- **LaSalle University Library**
  For Shepley, Bulfinch, Richardson and Abbott, Architects, Boston, MA
- **LoPresti Park, Boston, MA**
  For Public Facilities Department, Boston, Massachusetts
- **MBTA Park/Ride Improvements**
  For Massachusetts Bay Transit Authority, Boston, Massachusetts
- **Market Street Site Improvements, Lowell, MA**
  For the Department of Planning and Development, Lowell, Massachusetts
- **Cape Cod Rail Trail, Eastham -Wellfleet, Massachusetts**
  For the Massachusetts Departments of Public Works and Environmental Management

AREAS OF RESPONSIBILITY

Mr. Brown has served as both Project Manager and Construction Documentation Specialist, and he now serves as an Associate in charge of office management, business development, and project management.

ROBERTO C. GARCIA, LANDSCAPE ARCHITECT

EDUCATION

Harvard University, Graduate School of Design
Master of Landscape Architecture, 1989
Texas A & M University,
Bachelor of Science in Landscape Architecture, 1984
Texas A & M University Foreign Studies Program, Florence, Italy, 1983

AFFILIATIONS

Associate Member of the American Society of Landscape Architects

REGISTRATIONS

Registered Landscape Architect, Texas

HONORS AND AWARDS

Norman Newton Scholar for 1988-89,
Harvard University Graduate School of Design
National ASLA Student Honor Award, 1984

PROFESSIONAL EXPERIENCE

Paul C. K. Lu and Associates
Carter and Burgess, Inc., Dallas, Texas

PROJECT EXPERIENCE

- **Central Transit Transfer Facility, Greenville, South Carolina**
  Project planner for a two level garage facility that includes rooftop and pedestrian level landscape improvements.
- **McBee and Washington Street Landscape Improvements, Greenville, South Carolina**
  Project planner for the coordination of street landscape improvements with concurrent street redesign by the engineering consultants.
- **Univ. of Massachusetts Comprehensive Facilities Plan, Boston, MA**
  Project planner responsible for documenting and evaluating existing conditions on the campus to identify areas of concern and potential. Tasks included field survey, presentation graphics and report preparation.
- **Fort Bliss Installation Design Guide, West Texas**
  Team leader and project landscape architect for preparing comprehensive design guidelines for a one million acre military base. Tasks included visual analysis of developed and undeveloped land, documentation of existing conditions and formulation of design guidelines for new development and renovation.
- **Trinity Lakes Park Master Plan, Dallas, Texas**
  Team leader in preparing the master plan for this 3000 acre riverside park in downtown Dallas.

CAROLYN C. COONEY, LANDSCAPE ARCHITECT

EDUCATION

University of Pennsylvania,
Master of Landscape Architecture, 1977

AFFILIATIONS

American Society of Landscape Architects

REGISTRATION

Registered Landscape Architect, Massachusetts (Registration No. 729)

PROFESSIONAL EXPERIENCE

Paul C. K. Lu and Associates
Brown and Rowe, Boston, Massachusetts
Weir Associates, Boston, Massachusetts
William Pressley and Associates, Newton, Massachusetts
Roy Rydell Associates, Santa Cruz, California
Schnadelbach Braun Partnership, Philadelphia, Pennsylvania

PROJECT EXPERIENCE

- **Ramsey Park, Boston, MA**
  Landscape architect for site design and renovation of existing park and ballfield.
- **LaSalle University Library, Philadelphia, Pennsylvania**
  Project landscape architect for site planning and design of a main library complex.
- **Elliot Residence, Marblehead, MA**
  Landscape architect for site design for a waterfront residence.
- **Whittier School EOCD Mixed Family Housing, Dorchester, MA**
  Project landscape architect for site design of renovation of existing school to housing units. Work included schematic design to bid documentation.
- **St. Edward's Convent Congregate Housing, EOCD, Brockton, MA**
  Project landscape architect for renovation of convent to congregate housing for the elderly. Services included design of walkways, sitting areas, parking, site grading and planting.
- **Four Seasons Hotel/Park Plaza Redevelopment Area, Boston, MA**
  Project management and design for the design development and contract documentation phases for the redevelopment of Park Plaza.
- **La Chaminade Conference Center, Santa Cruz, California**
  Project management for design development and construction documentation phases. Project involved outside dining terraces, siting areas and fountains.
- **Tiverton Commons, Tiverton, Rhode Island**
  Project management of 15 acre small commercial development. Work included schematic site design for new buildings, parking, commons, pond and preservation of existing historic houses.

IVY K. H. NG, LANDSCAPE DESIGNER

EDUCATION

University of New South Wales, Sydney, School of Architecture
Bachelor of Architecture (Honors), 1987

AFFILIATIONS

Royal Australian Institute of Architects

AWARDS

University of New South Wales, Associated Hardware Manufacturers Scholarship, 1988

PROFESSIONAL EXPERIENCE

Paul C. K. Lu and Associates
Fox and Associates, Architects/Planners, Sydney, Australia
KHP Architects, Melaka, Malaysia

PROJECT EXPERIENCE

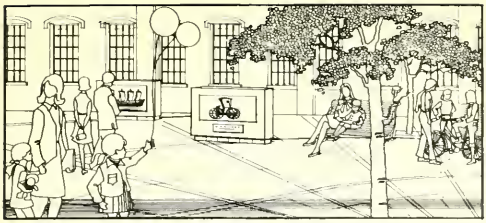
- **Lynn Heritage State Park Site Design, Lynn, MA**
  Landscape design and construction documentation. Site elements include pedestrian paths, plaza, fountain, park furniture, lawn and parking.
- **Ramsey Park, Boston, MA**
  Landscape design and construction documentation for a ballfield, children's playground, tennis and basketball courts.
- **Belmont Shopping Center Parking, Belmont, MA**
  Conceptual design for a parking lot to an existing shopping center.
- **Benco Shopping Center, Washington, D.C.**
  Site study, analysis and presentation for site improvements to an existing shopping center.
- **Lo Presti Park, Boston, MA**
  Master planning, landscape design and documentation of a waterfront park. For the Department of Environmental Management, Massachusetts.
- **Whitsunday Holiday Resort, Queensland, Australia**
  Planning and architectural design for a holiday resort to include hotels, condominiums and shopping centers.
- **Parramatta Office Complex, Parramatta, New South Wales**
  Design and construction documentation for a five-storey office complex in the central business district of Parramatta .
- **Melaka Sports Center, Malaysia**
  Conceptual design and project management for a five-storey sports complex that includes a swimming pool, squash courts, a bowling alley and restaurants.
- **Supreme Office Complex, Melaka, Malaysia**
  Conceptual design and schematics for a twenty-four storey office complex, with a sports facility on the top three floors of the complex.

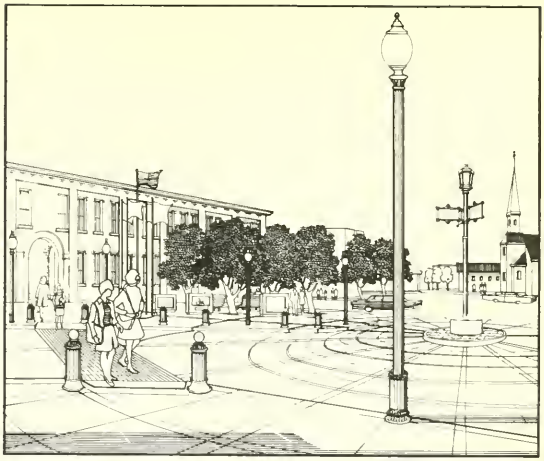
FAYETTEVILLE TRANSIT MALL

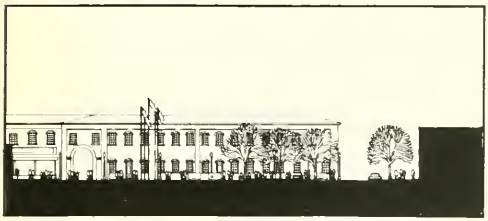
FAYETTEVILLE, NORTH CAROLINA

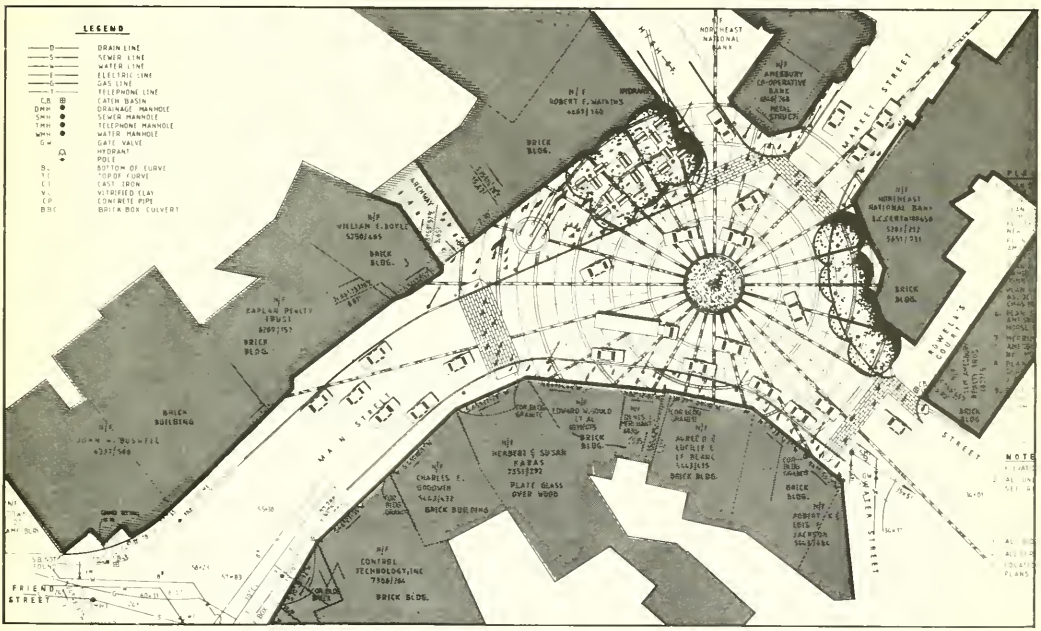
Hay Street, a once run-down, automobile-dominated street in the the Central Business District, has been transformed into a generously people-oriented amenity zone. Improvements include: widened sidewalks, shade trees, lighting, seating, a new decorative fountain, information kiosks and historic displays. As an active "people place," the Transit Mall will encourage economic revitalization through the enhancement of the downtown's visual character and by the functional accommodation of diverse urban activites. Consultant to Parsons Brinkerhoff Quade & Douglas - Engineers. For the City of Fayetteville, NC.

PAUL C.K. LU & ASSOCIATES









MARKET SQUARE

AMESBURY, MASSACHUSETTS

Plagued by the identity as a regional crossroads, Amesbury sought to introduce much needed open space to the downtown area. New paving, flagpoles, trees and historic interpretive markers function in concert to meet the above project requirement. The result is a Town-Wide Gateway/Plaza which encourages greater pedestrian activity and communicates a clear community identity to those arriving from surrounding areas. For the Town of Amesbury, Massachusetts.

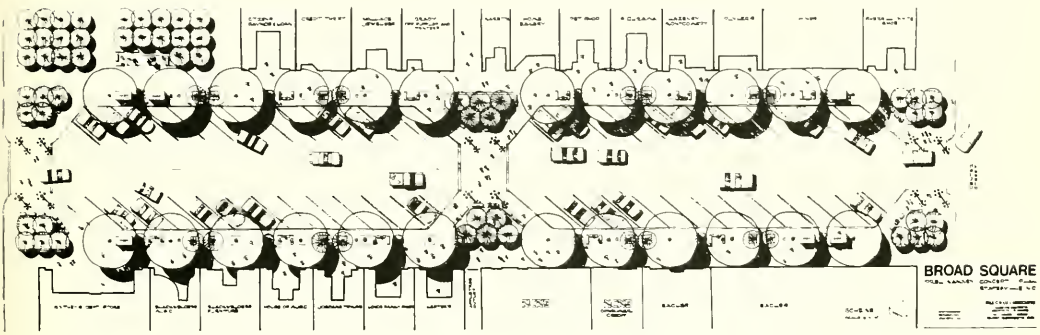
PAUL C.K. LU & ASSOCIATES

WINCHESTER CENTER URBAN DESIGN

WINCHESTER, MASSACHUSETTS

By enhancing underutilized pedestrian linkages between public open space and the retail district, the overall character of this town center has been dramatically improved. New thematic street lighting, shade trees, as well as brick and granite pavers contribute to an overall pedestrian amenity package made possible by some $1.2 million of public investment. As a result, vigorous ongoing private sector re-investment ensures the continued economic vitality of this suburban community. For the Town of Winchester, Massachusetts.

PAUL C.K. LU & ASSOCIATES



STATESVILLE C.B.D. STREETSCAPE

STATESVILLE, NORTH CAROLINA

The goal of this project was to hedge the declining economic health of the Broad Square retail district by attracting shoppers from encroaching suburban malls. Major project components include increased parking adjacent to retail shops and the encouragement of pedestrian circulation. With the introduction of widened sidewalks and a raised central crosswalk, through traffic is slowed allowing pedestrians to lazily window shop without the concern for vehicular conflicts. For the Statesville Chamber of Commerce.

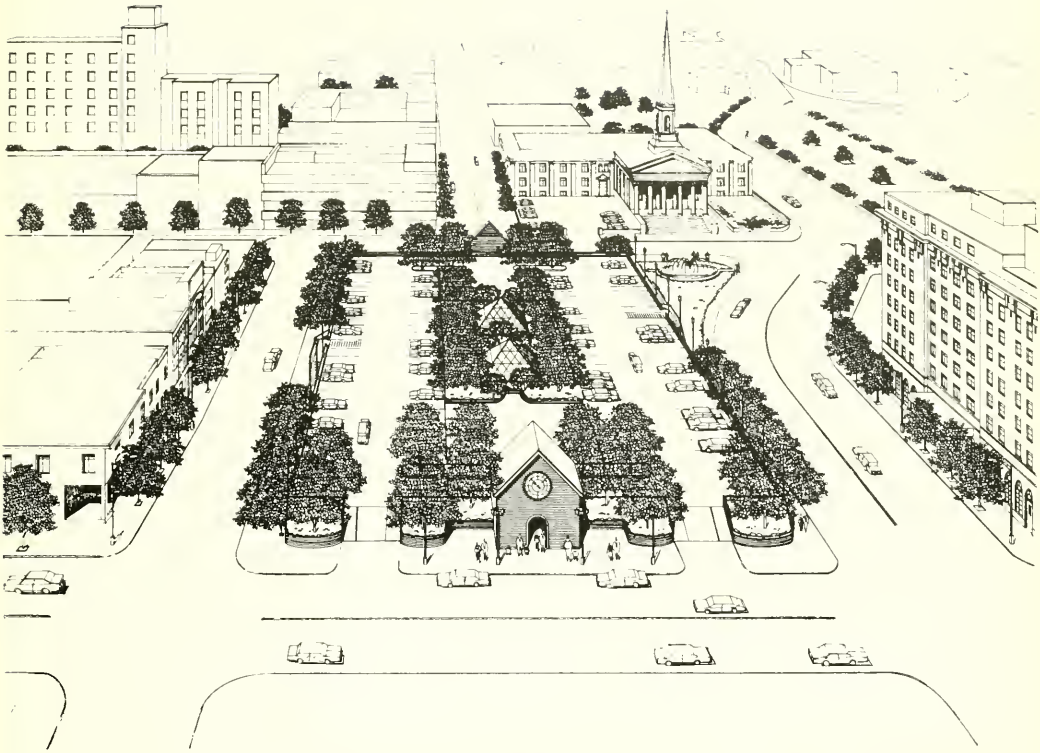
PAUL C. K. LU & ASSOCIATES

ECUMENICAL PLAZA

LOWELL, MASSACHUSETTS

Paul C.K. Lu & Associates provided urban design and landscape architecture services for a plaza constructed as a bridge spanning an existing canal. The open space links two diverse ethnic neighborhoods, with historic churches overlooking the new public amenity. Flowering Cherry Trees and Red Maples provide colorful seasonal changes and serve as a focal point for religious and social activity. For the City of Lowell, Massachusetts.

PAUL C.K. LU & ASSOCIATES



CENTRAL TRANSIT TRANSFER FACILITY

GREENVILLE, SOUTH CAROLINA

The ambitious programmatic requirements of this combination central bus transfer facility/C.B.D. parking deck include meeting the community's transportation needs while introducing a park-like landscape amenity package. The resulting structure utilizes sensitive massing, an appropriately historic design vocabulary, a landscaped parking deck, and complementary streetscape improvements to visually enhance the existing urban fabric. Consultant to Parsons Brinckerhoff Quade & Douglas, for the Greenville Transit Authority, Greenville, S.C.

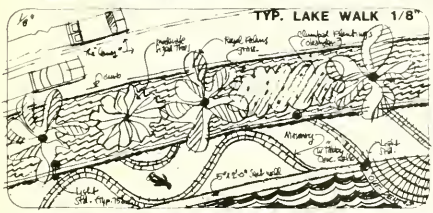
PAUL C.K. LU & ASSOCIATES

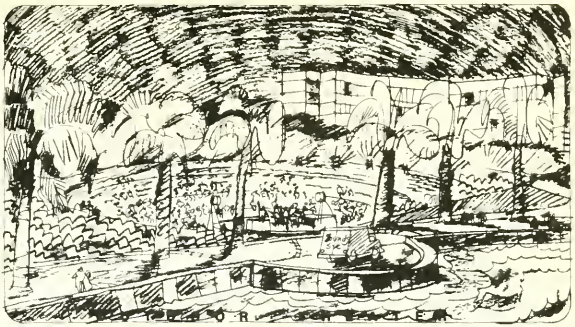
WEST BROADWAY HOUSING RENEWAL

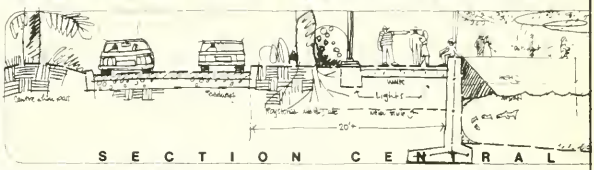
BOSTON, MASSACHUSETTS

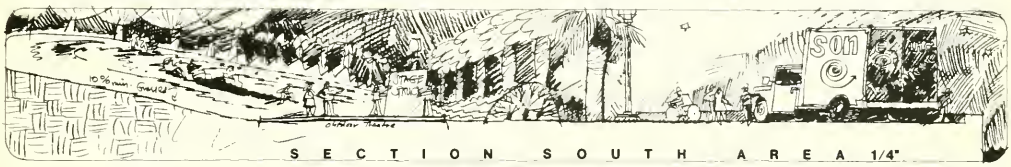
At this area of common entry a sense of ceremonial formality is achieved by the introduction of a small courtyard. Here, paved and planted surfaces are separated by a variety of functional site improvements ensuring that new and existing plant material flourish within such active pedestrian areas. Combined, these site elements, and others site-wide, function in concert to complement dramatic improvements to this existing housing complex. Consultant to Lane Frenchman and Associates, Inc. and Goody Clancy and Associates, Inc., for Boston Housing Authority.

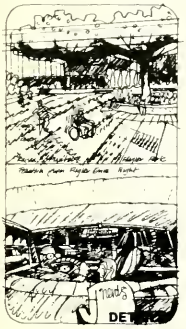
PAUL C.K. LU & ASSOCIATES

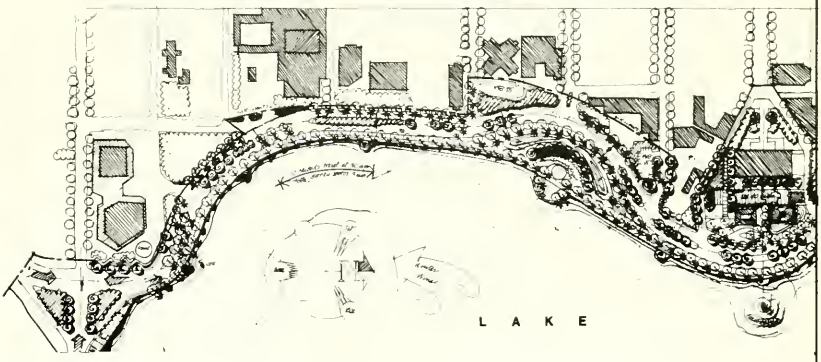










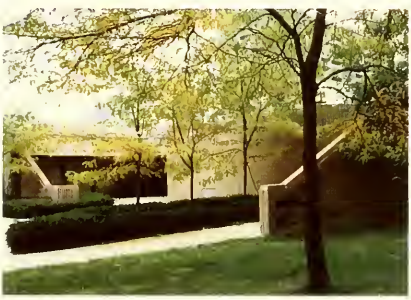


WEST PALM BEACH URBAN DESIGN

WEST PALM BEACH, FLORIDA

Once blocking access to Lake Worth, Flager Dr. has been carefully realigned, lavishly landscaped, and delightfully graced with outdoor amenities, which have established the lake front as a people place. Fingers of landscape plantings link the central business district and residential neighborhoods to the drive's outdoor theater, library plaza, lake front park, and numerous look out points. Interest, activity and focus are brought to the lake front, declaring its vitality for West Palm Beach. With Frank James for the City of West Palm Beach, Florida.

PAUL C.K. LU & ASSOCIATES

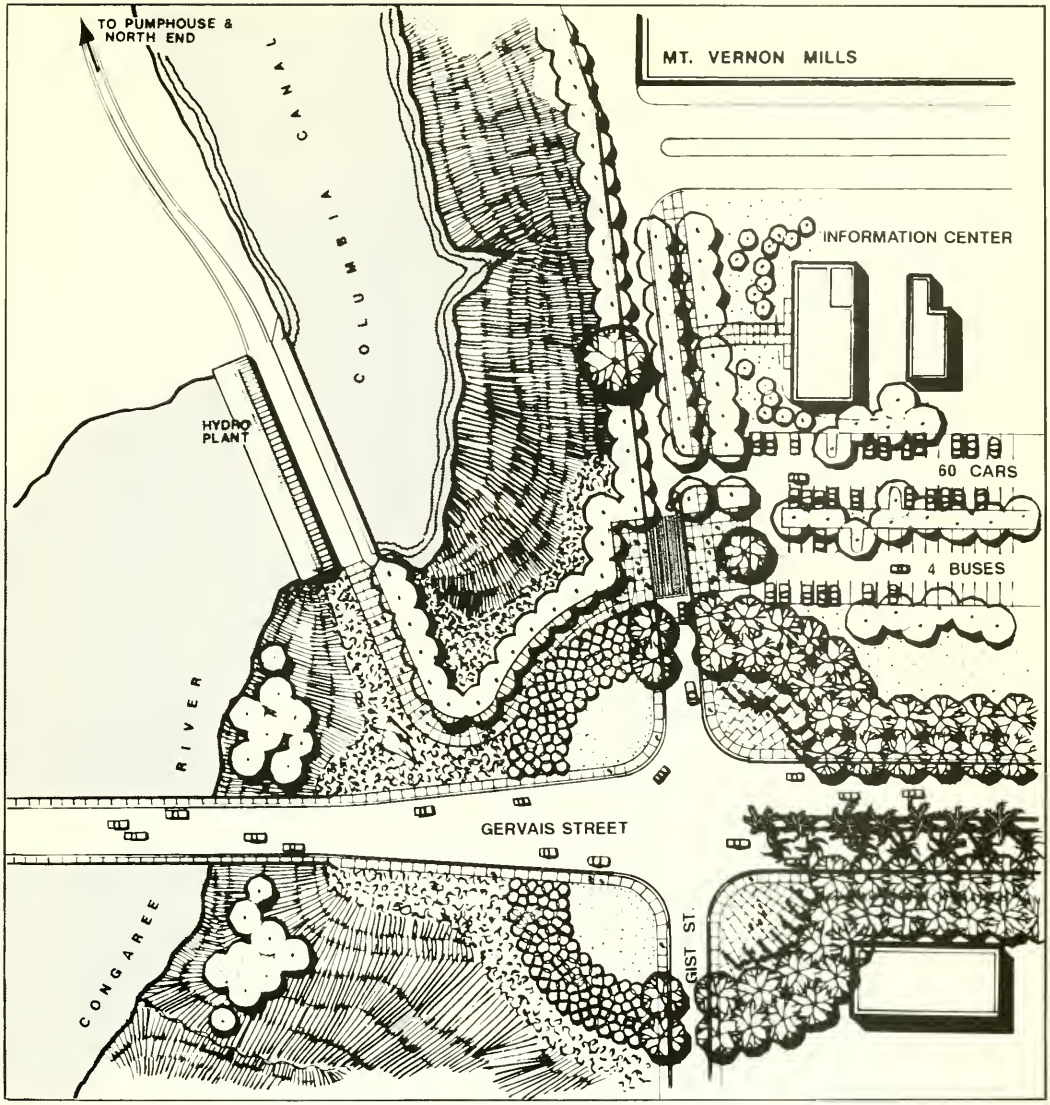


CHARLES RIVER PARK SYNAGOGUE

BOSTON, MASSACHUSETTS

This project involved landscape design for an established orthodox Jewish congregation whose shul was lost in the urban renewal of Boston's West End. Reestablishment of the synagogue included lush plantings of evergreens and vines to emphasize the intricate surface texture and sculptural quality of the building. Lively interplay of interior spaces with exterior courtyard spaces, achieved through skillful layering of plant materials, has served to enhance the worship and contemplative experience of the congregation. Consultant to CBT, Inc. - Architects.

PAUL C.K. LU & ASSOCIATES



GERVAIS STREET GATEWAY

COLUMBIA, SOUTH CAROLINA

The City of Columbia is the state capital of South Carolina. As the main street and physical spine of the city, Gervais Street acts to tie together federal, state, and local governmental functions; commercial and retail shops and offices; plus the main campus of the University of South Carolina. An elegant boulevard was created by planting the median strip with palms — the state tree of South Carolina, and by taking advantage of existing natural vegetation. The Gervais Street Gateway will provide a revitalized streetscape and image for Columbia's main thoroughfare. For the City of Columbia, South Carolina.

PAUL C.K. LU & ASSOCIATES

COLUMBIA RIVERFRONT PARK AND HISTORIC COLUMBIA CANAL

COLUMBIA, SOUTH CAROLINA

HONORABLE KIRKMAN FINLAY, JR.
Mayor

WILLIAM C. OUZTS
Councilman

T. PATTON ADAMS
Councilman

RUDOLPH C. BARNES, JR.
Councilman

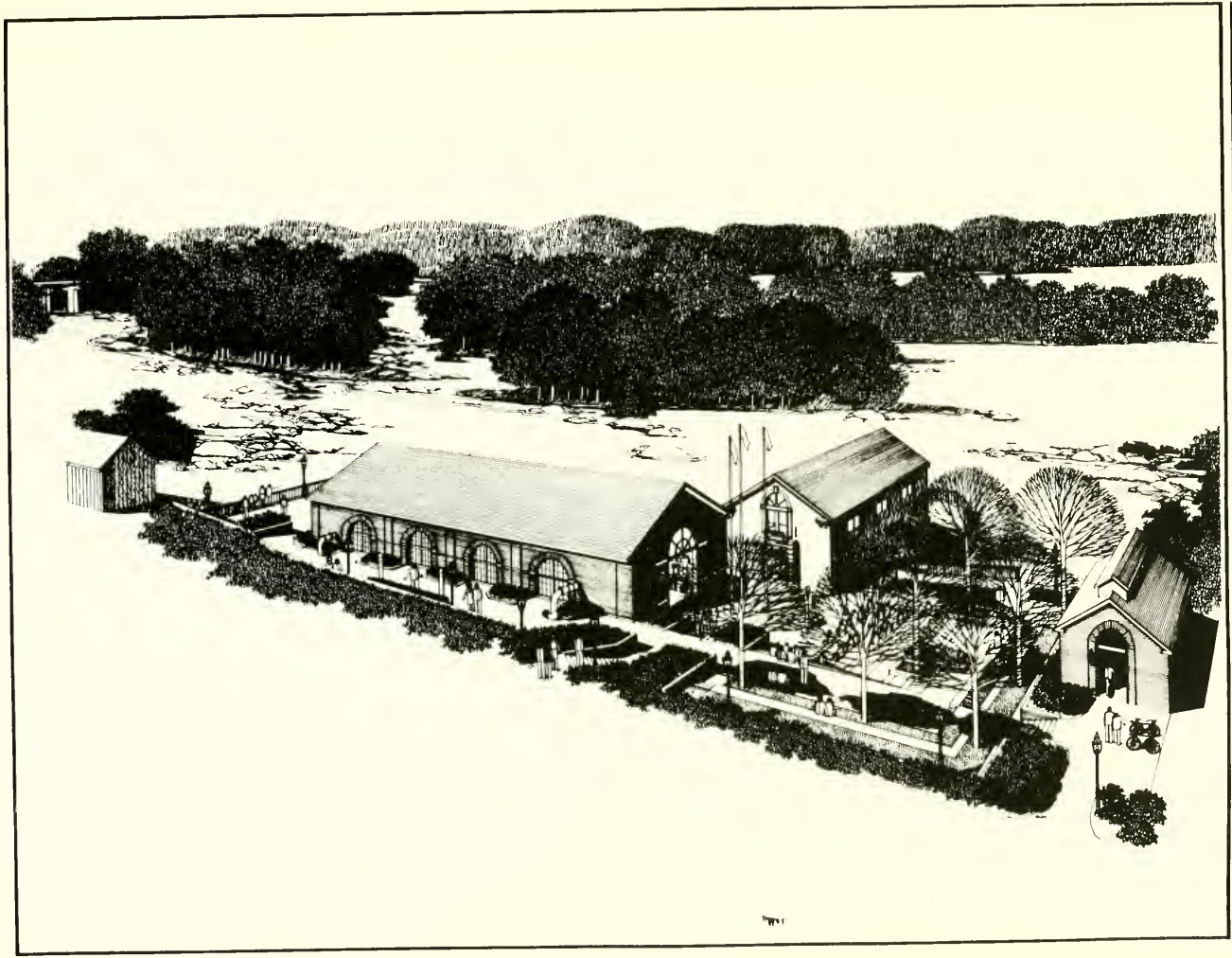
PAUL Z. BENNETT
Councilman

GRAYDON V. OLIVE, JR.
City Manager

Paul C.K. Lu & Associates — Boston, Mass., Charlotte, N.C.
Architects, Landscape Architects, Planners, Urban Designers

B.P. Barber & Associates — Columbia, S.C.
Consulting Engineers

Stevens & Wilkinson — Columbia, S.C., Atlanta, Ga.
Associated Architects



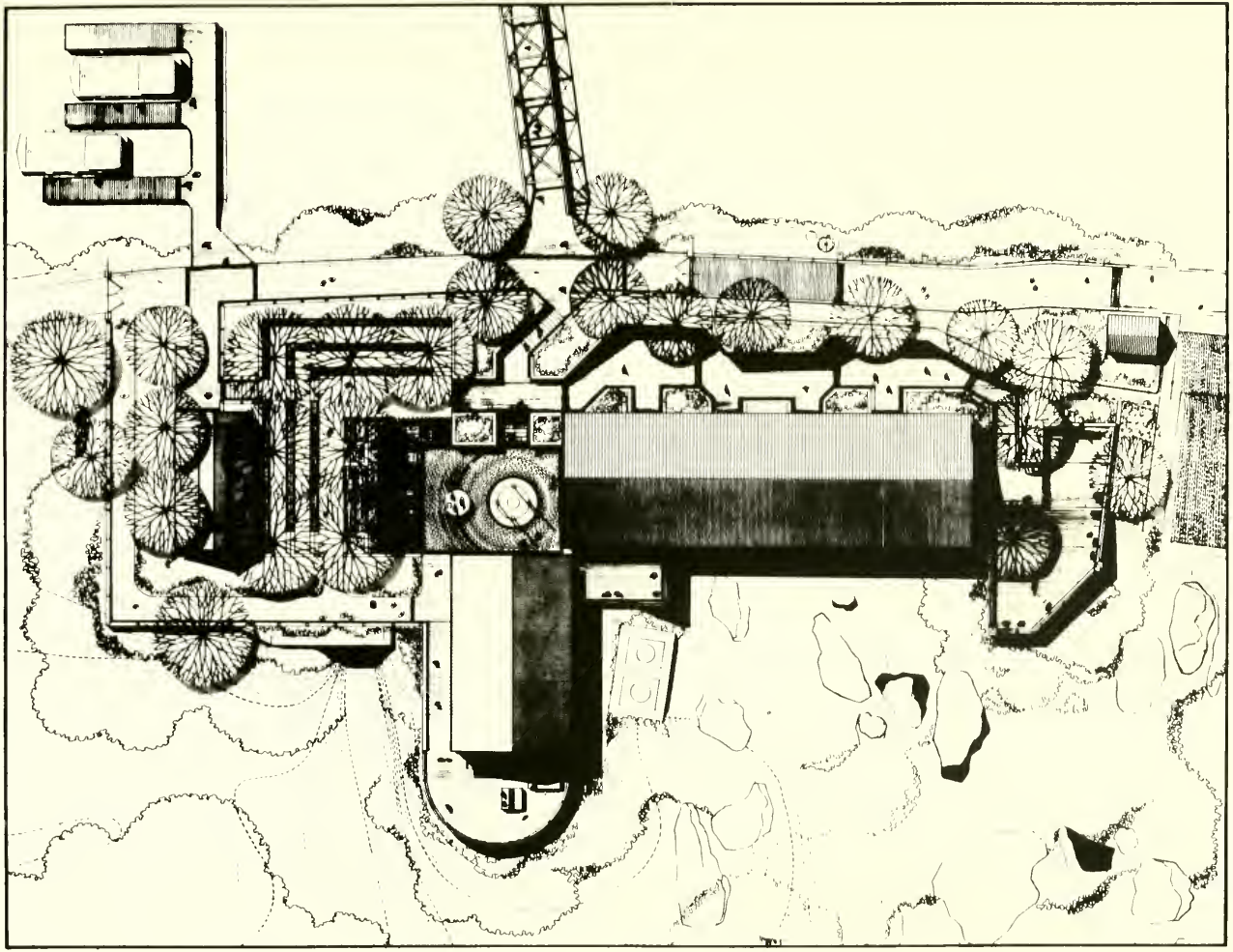
COLUMBIA RIVERFRONT PARK AND HISTORIC COLUMBIA CANAL

COLUMBIA, SOUTH CAROLINA

PAUL C.K. LU & ASSOCIATES
ARCHITECTS PLANNERS
LANDSCAPE ARCHITECTS
68 CUSHING AVENUE
BELMONT MASSACHUSETTS 02178

PUMP HOUSE
VISITOR CENTER

PERSPECTIVE

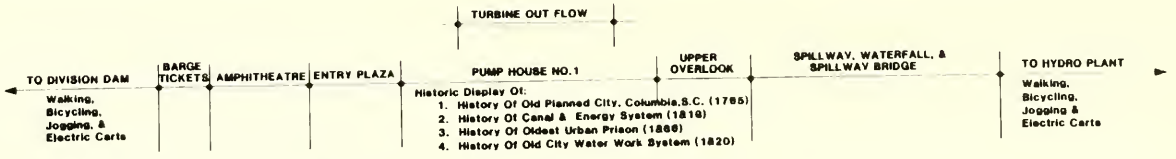


COLUMBIA RIVERFRONT PARK AND HISTORIC COLUMBIA CANAL

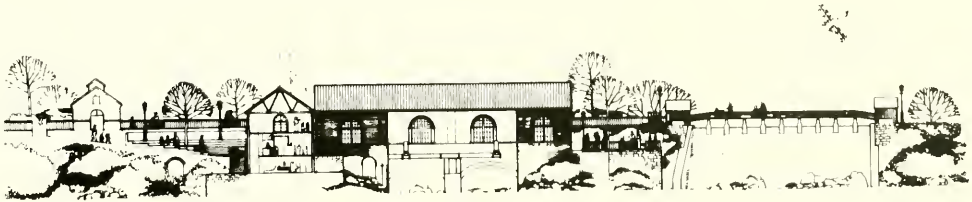
COLUMBIA, SOUTH CAROLINA

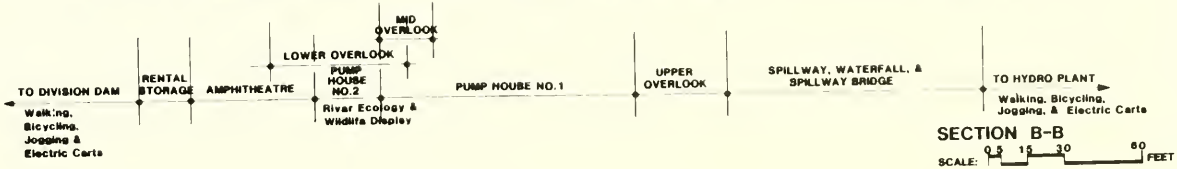
PAUL C K LU & ASSOCIATES
ARCHITECTS PLANNERS
LANDSCAPE ARCHITECTS
BELMONT MASSACHUSETTS 02178

PUMP HOUSE
VISITOR CENTER


TURBINE OUT FLOW
TO DIVISION DAM
Walking, Bicycling, Jogging, & Electric Carts
BARGE TICKETS
AMPHITHEATRE
ENTRY PLAZA
PUMP HOUSE NO.1
Historic Display Of:
1. History Of Old Planned City, Columbia,S.C. (1786)
2. History Of Canal & Energy System (1819)
3. History Of Oldest Urban Prison (1866)
4. History Of Old City Water Work System (1820)
UPPER OVERLOOK
SPILLWAY, WATERFALL, & SPILLWAY BRIDGE
TO HYDRO PLANT
Walking, Bicycling, Jogging & Electric Carts

SECTION A-A





SECTION B-B

SCALE: 0 5 15 30 60 FEET

CITY OF COLUMBIA
JUSTITIA VIRTUTUM REGINA

COLUMBIA RIVERFRONT PARK AND HISTORIC COLUMBIA CANAL

COLUMBIA, SOUTH CAROLINA

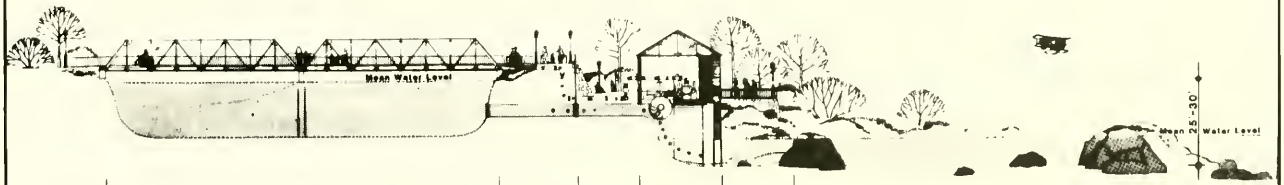
PAUL C.K. LU & ASSOCIATES
ARCHITECTS PLANNERS
LANDSCAPE ARCHITECTS
84 CUSHING AVENUE
BELMONT, MASSACHUSETTS 02178

PUMP HOUSE VISITOR CENTER

SECTION

To Park Entry | COLUMBIA CITY WATER WORKS BRIDGE | CANAL LEVEE — Walking, Bicycling, Jogging, & Electric Carts | PUMP HOUSE NO.1 — Entry Plaze | PUMP HOUSE NO.2 — River Ecology & Congaree Wildlife Display | CONGAREE RIVER & IT'S UNIQUE ROCK FORMATION

SECTION C-C



CITY WATER WORKS | HISTORIC COLUMBIA CANAL — Hydro-Electric Source From 1891 To Date | CANAL LEVEE — Walking, Bicycling, Jogging, & Electric Carts | UPPER TERRACE | PUMP HOUSE NO.1 — Historic Display, Work Turbine, & Pump Demonstration | UPPER OVERLOOK | CONGAREE RIVER & IT'S UNIQUE ROCK FORMATION

SECTION D-D

SCALE: 0 5 15 30 60 FEET

COLUMBIA RIVERFRONT PARK AND HISTORIC COLUMBIA CANAL

COLUMBIA, SOUTH CAROLINA

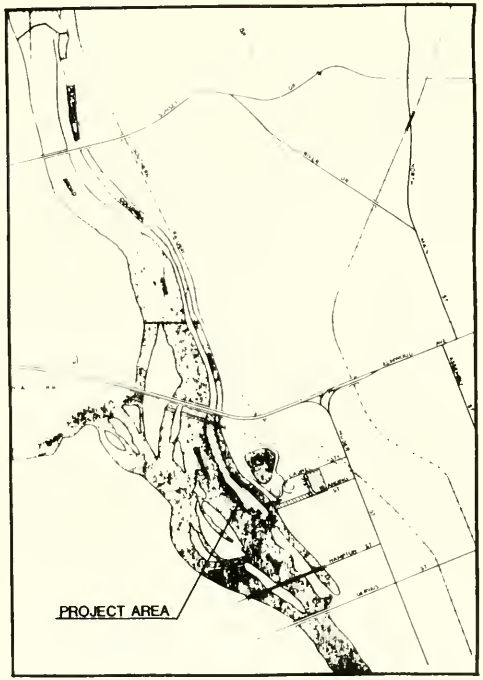
PAUL C K LU & ASSOCIATES
ARCHITECTS PLANNERS
LANDSCAPE ARCHITECTS
66 CUSHING AVENUE
BELMONT MASSACHUSETTS 02178

PUMP HOUSE VISITOR CENTER

SECTION

VICINITY PLAN

SCALE 1" = 1000'



INDEX TO DRAWINGS

L-1 COVER SHEET
L-2 INDEX TO DRAWINGS & LOCATION PLAN
L-3 EXISTING CONDITIONS & DEMOLITION PLAN
L-4 EXISTING CONDITIONS & DEMOLITION PLAN
L-5 EXISTING CONDITIONS & DEMOLITION PLAN
L-6 EXISTING CONDITIONS & DEMOLITION PLAN
L-7 EXISTING CONDITIONS & DEMOLITION PLAN
L-8 SITE LAYOUT
L-9 SITE LAYOUT
L-10 SITE LAYOUT
L-11 SITE LAYOUT
L-12 SITE LAYOUT
L-13 SITE GRADING
L-14 SITE GRADING
L-15 SITE GRADING
L-16 SITE GRADING
L-17 SITE GRADING
L-18 PLANTING PLAN
L-19 PLANTING PLAN
L-20 PLANTING PLAN
L-21 PLANTING PLAN
L-22 PLANTING PLAN
L-23 PUMPING STATION - EXISTING CONDITIONS & DEMOLITION
L-24 ENTRANCE PLAZA, COMFORT STATION, ADMINISTRATION BUILDING, OVERLOOK #1 - SITE LAYOUT
L-26 PUMPING STATION - SITE LAYOUT
L-26 OVERLOOKS #2, #5 - SITE LAYOUT
L-27 OVERLOOKS #3, #4 - SITE LAYOUT
L-28 ENTRANCE PLAZA, COMFORT STATION, ADMINISTRATION BUILDING, OVERLOOK #1 - SITE GRADING
L-29 PUMPING STATION - SITE GRADING
L-30 ENTRANCE PLAZA, COMFORT STATION, ADMINISTRATION BUILDING, OVERLOOK #1 - PLANTING
L-31 PUMPING STATION - PLANTING

LD-1 SITE DETAILS
LD-2 SITE DETAILS
LD-3 SITE DETAILS
LD-4 SITE DETAILS
LD-5 SITE DETAILS
LD-6 SITE DETAILS
LD-7 SITE DETAILS
LD-8 SITE DETAILS
LD-9 SITE DETAILS

E-1 PARKING LOT DRAINAGE PLAN
E-2 ENTRANCE PLAZA DRAINAGE PLAN
E-3 PUMPING STATION DRAINAGE PLAN
E-4 STORM DRAIN PROFILE
SANITARY SEWER PLAN & WATER DISTRIBUTION
E-5
E-6 SANITARY SEWER PROFILE/WATER & SEWER DETAILS
E-7 PARKING LOT ELECTRICAL PLAN
E-8 ENTRANCE PLAZA ELECTRICAL PLAN
E-9 PUMPING STATION ELECTRICAL PLAN
E-10 PUMPING STATION OVERLOOKS
E-11 CANAL & RIVER OVERLOOKS

ED-1 STORM DRAINAGE STRUCTURAL DETAILS
ED-2 STORM DRAINAGE STRUCTURAL DETAILS
ED-3 ELECTRICAL DETAILS
ED-4 ELECTRICAL DETAILS
ED-5 PUMPING STATION OVERLOOK DETAILS
ED-6 CANAL & RIVER OVERLOOK DETAILS
ED-7 EXISTING WATERWORKS BRIDGE
ED-8 ALTERATIONS TO WATERWORKS BRIDGE
ED-9 TRANSMISSION TOWERS ANTI-CLIMBING DETAILS

A-1 COMFORT STATION FLOOR PLAN
A-2 PLUMBING & FOUNDATION PLAN
A-3 ELEVATIONS
A-4 DETAILS
A-5 ELEVATIONS & DETAILS
A-6 DOOR DETAILS
A-7 PUMP HOUSE FLOOR PLAN
A-8 PLAQUE & EXHIBIT DETAILS
A-9 INTERPRETIVE MARKER LOCATION (ALTERNATE #8)
A-10 INTERPRETIVE MARKER LOCATION (ALTERNATE #8)
A-11 INTERPRETIVE MARKER LOCATION (ALTERNATE #7)

CITY of COLUMBIA
JUSTITIA VIRTUTUM REGINA

COLUMBIA RIVERFRONT PARK AND HISTORIC COLUMBIA CANAL

COLUMBIA, SOUTH CAROLINA

PAUL C.K. LU + ASSOCIATES
ARCHITECTS - LANDSCAPE ARCHITECTS
PLANNERS - URBAN DESIGNERS
BOSTON MASS - CHARLOTTE N.C.

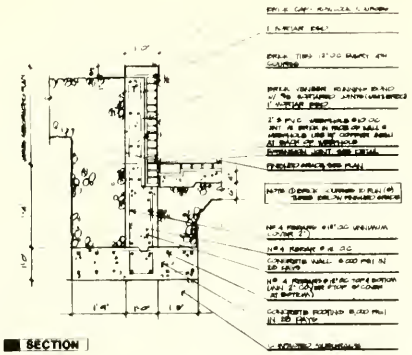
B P BARBER + ASSOCIATES
CONSULTING ENGINEERS
COLUMBIA SOUTH CAROLINA

INDEX TO DRAWINGS & LOCATION PLAN

REVISION

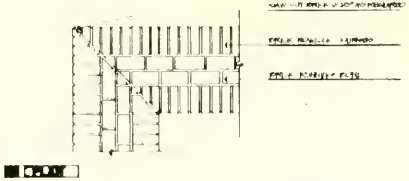
SCALE
DATE
DRAWN
CHECKED
APPROVED

L-2

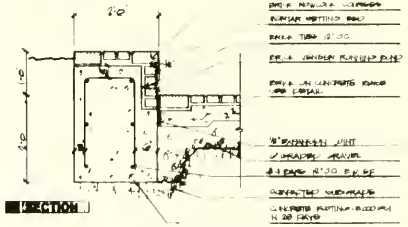


SECTION

1 LD-4 BRICK VENEERED RETAINING WALL
SCALE 3/4"=1'

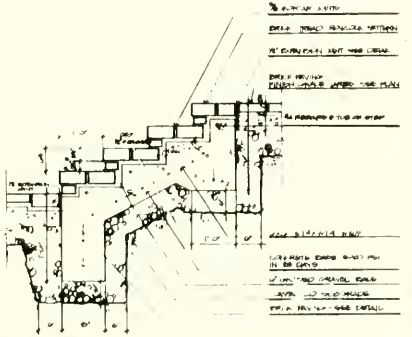


PLAN



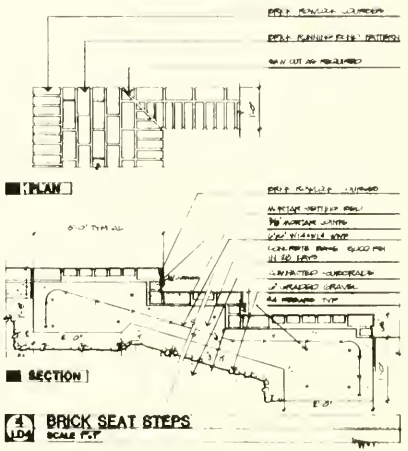
SECTION

3 LD-4 BRICK SEAT WALL
SCALE 1"=1'



SECTION

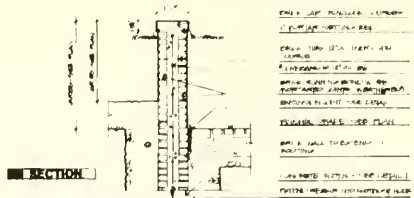
2 LD-4 BRICK STEPS
SCALE 1"=1'



PLAN

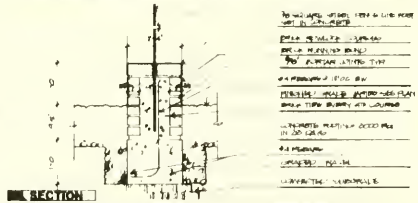
SECTION

4 LD-4 BRICK SEAT STEPS
SCALE 1"=1'



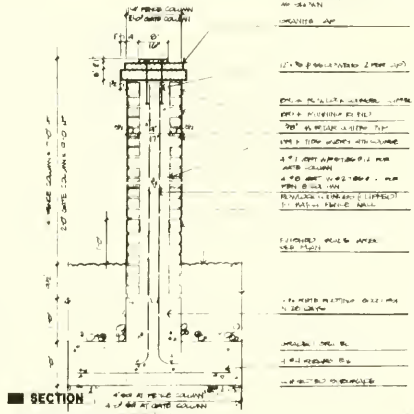
SECTION

5 LD-4 DOUBLE FACED BRICK VENEERED WALL
SCALE 3/4"=1'



SECTION

6 LD-4 FENCE WALL
SCALE 1"=1'



SECTION

7 LD-4 FENCE COLUMN
SCALE 1"=1'

CITY of COLUMBIA
FORTITUDO VIRTUTUM REGINA

COLUMBIA RIVERFRONT PARK AND HISTORIC COLUMBIA CANAL

COLUMBIA, SOUTH CAROLINA

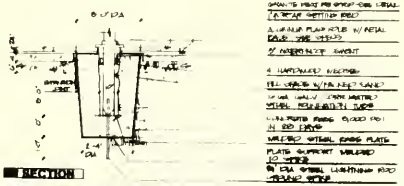
PAUL C.K. LU & ASSOCIATES
ARCHITECTS · LANDSCAPE ARCHITECTS
PLANNERS · URBAN DESIGNERS
BOSTON, MASS. · CHARLOTTE, N.C.

B P BARBER & ASSOCIATES
CONSULTING ENGINEERS
COLUMBIA, SOUTH CAROLINA

SITE DETAILS

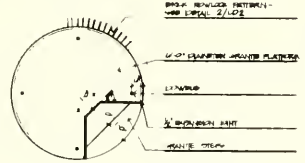
REVISION	SCALE: AS NOTED DATE: 9-30-76 DRAWN: MB CHECKED: APPROVED:

LD-4

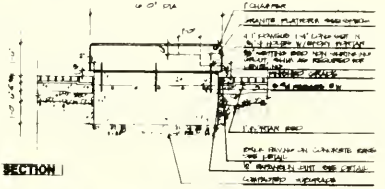


SECTION

1 LDS FLAGPOLE
SCALE 1/2"=1'

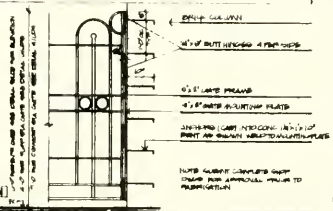


PLAN



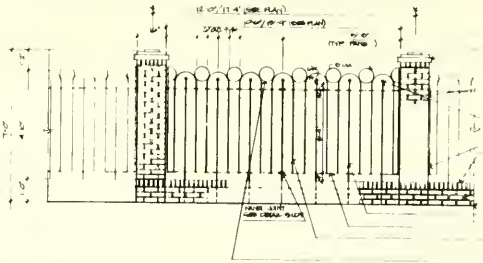
SECTION

2 LDS GRANITE PLATFORM
SCALE 1/2"=1'



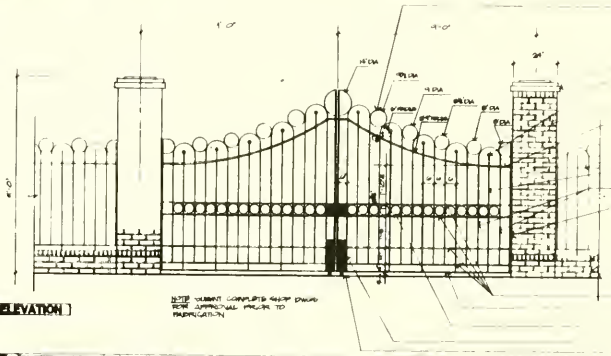
ELEVATION

3 LDS GATE HINGE
SCALE 3/4"=1'



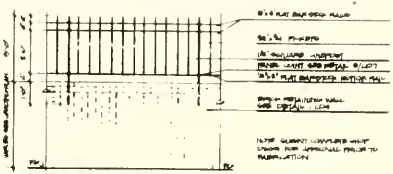
ELEVATION

4 LDS ENTRY PLAZA FENCE
SCALE 1/2"=1'



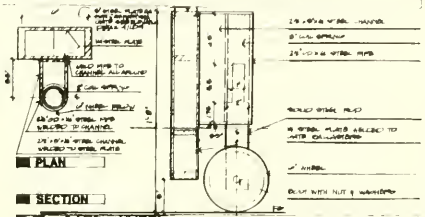
ELEVATION

5 LDS ENTRANCE PLAZA GATE
SCALE 1/2"=1'



ELEVATION

6 LDS COMFORT STATION FENCE
SCALE 1/4"=1'



PLAN

SECTION

7 LDS GATE WHEEL
SCALE 3"=1'

CITY of COLUMBIA
DILIGENTIA VIRTUTUM SOROR

COLUMBIA RIVERFRONT PARK AND HISTORIC COLUMBIA CANAL

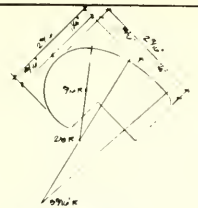
COLUMBIA, SOUTH CAROLINA

PAUL C.K. LU & ASSOCIATES
ARCHITECTS · LANDSCAPE ARCHITECTS
PLANNERS · URBAN DESIGNERS
BOSTON MASS · CHARLOTTE N.C.

B P BARBER & ASSOCIATES
CONSULTING ENGINEERS
COLUMBIA SOUTH CAROLINA

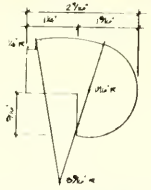
SITE DETAILS

REVISION	SCALE: AS SHOWN DATE: 6-30-78 DRAWN: LMB CHECKED: TP H APPROVED: PL



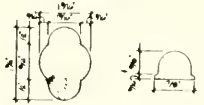
TOP SLAT - SECTION X-X

STANDARD SLAT-SECTION Y-Y



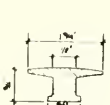
FRONT SLAT-SECTION Z-Z

WOOD SECTIONS

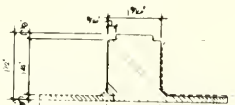


SECTION A-A

SECTION B-B



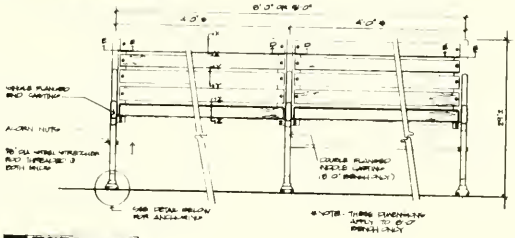
SECTION C-C



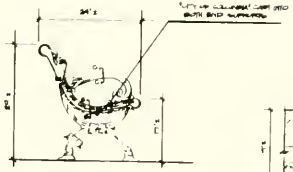
SECTION D-D (DOUBLE PLANTER)

SECTION E-E (SINGLE PLANTER)

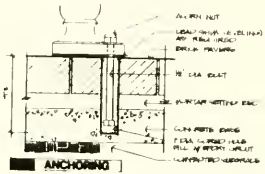
CAST IRON SECTIONS



FRONT ELEVATION

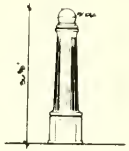


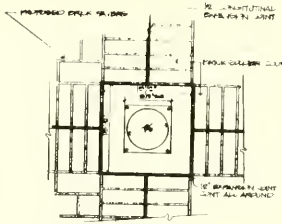
SECTION



ANCHORING

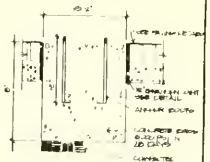
4 LD-6 VICTORIAN BENCH
NOT TO SCALE





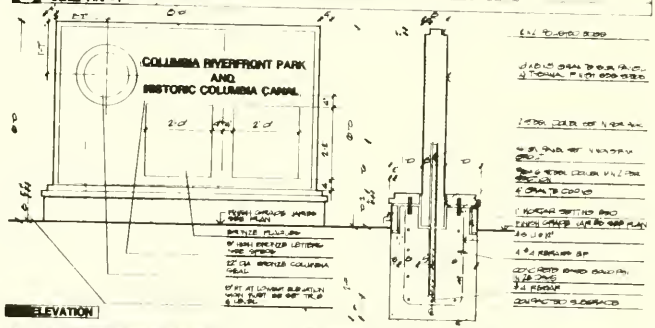
ELEVATION (NOT TO SCALE)

PLAN



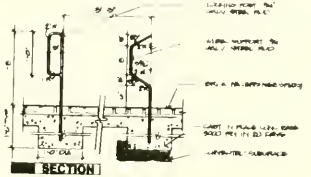
ANCHORING

4 LD-6 CAST ALUMINUM BOLLARD
SCALE 1 1/2" = 1'



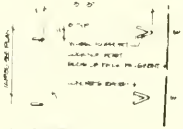
ELEVATION

8 LD-6 GRANITE ENTRY SIGN
SCALE 3/4" = 1'



SECTION

SECTION



PLAN

4 LD-6 BIKE RACK
NOT TO SCALE

CITY OF COLUMBIA
SCIENTIA VIRTUTIS ROBUR

COLUMBIA RIVERFRONT PARK AND HISTORIC COLUMBIA CANAL

COLUMBIA, SOUTH CAROLINA

PAUL C.K. LU & ASSOCIATES
ARCHITECTS - LANDSCAPE ARCHITECTS
PLANNERS - URBAN DESIGNERS
BOSTON MASS - CHARLOTTE N.C.

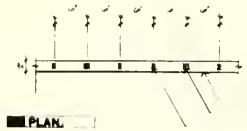
B P BARBER & ASSOCIATES
CONSULTING ENGINEERS
COLUMBIA SOUTH CAROLINA

SITE DETAILS

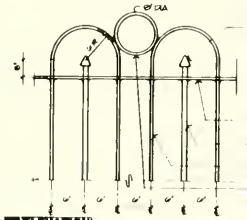
REVISION

SCALE
DATE
DRAWN
CHECKED
APPROVED

LD-6

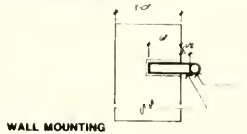


PLAN

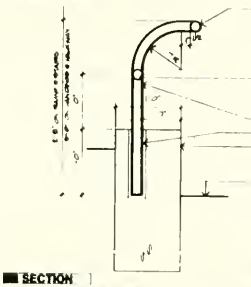


ELEVATION

1 LD7 ORNAMENTAL FENCE
SCALE 1 1/2"=1'

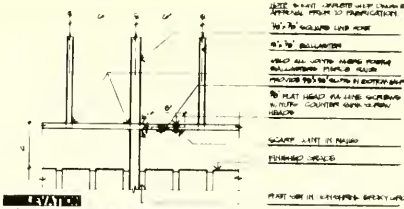


WALL MOUNTING
SECTION



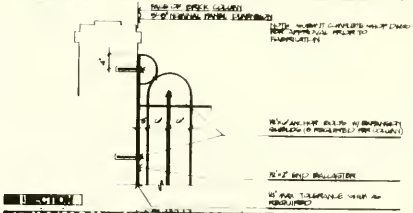
SECTION

2 LD7 HANDRAIL
SCALE 1 1/2"=1'



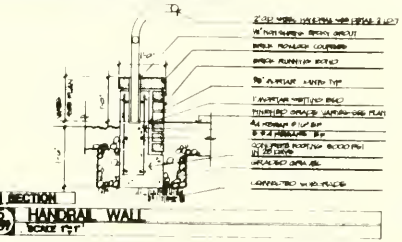
ELEVATION

3 LD7 TYPICAL PANEL JOINT
SCALE 3"=1'



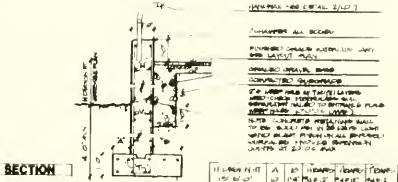
SECTION

4 LD7 COLUMN/FENCE ANCHORING
SCALE 1"=1'



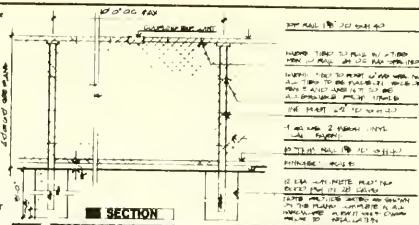
SECTION

5 LD7 HANDRAIL WALL
SCALE 1"=1'



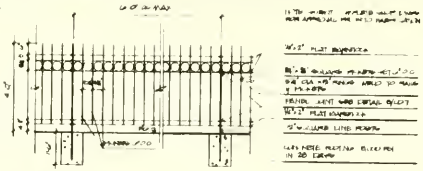
SECTION

6 LD7 CONCRETE RETAINING WALL at RAMP
SCALE 1/2"=1'



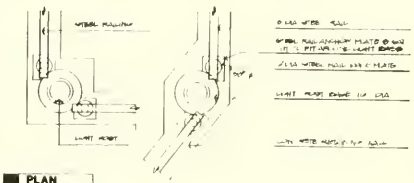
SECTION

7 LD7 CHAIN LINK FENCE
SCALE 3/4"=1'

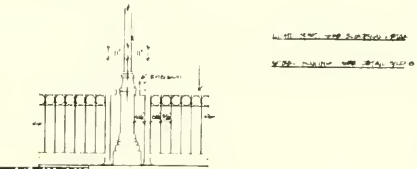


SECTION

8 LD7 ORNAMENTAL PICKET FENCE
SCALE 1/2"=1'



PLAN
SCALE 3/4"=1'



ELEVATION
SCALE 1:2"=1'

9 LD7 LIGHT POST/STEEL RAIL at pump station overlook
SCALE AS SHOWN

CITY of COLUMBIA
SCITIA VIRTUTIS REGINA

COLUMBIA RIVERFRONT PARK AND HISTORIC COLUMBIA CANAL

COLUMBIA, SOUTH CAROLINA

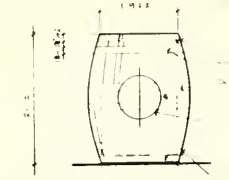
PAUL C.K. LU & ASSOCIATES
ARCHITECTS · LANDSCAPE ARCHITECTS
PLANNERS · URBAN DESIGNERS
BOSTON, MASS · CHARLOTTE, N.C.

B P BARBER & ASSOCIATES
CONSULTING ENGINEERS
COLUMBIA, SOUTH CAROLINA

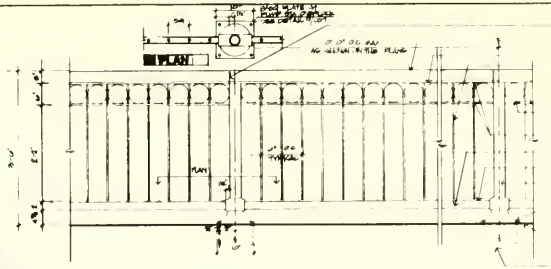
SITE DETAILS

REVISION	SCALE: AS SHOWN DATE: DRAWN: CHECKED: APPROVED:

LD-7

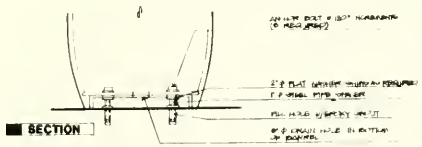


PLAN
SCALE 1"=1'

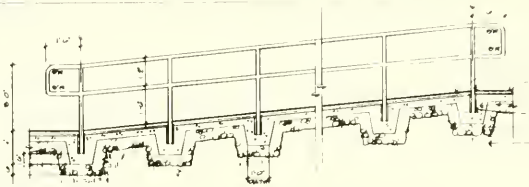


ELEVATION

3 LD8 STEEL RAILING
SCALE 1"=1'



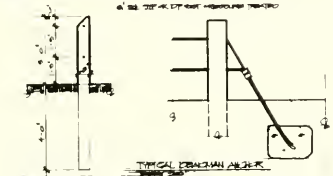
SECTION



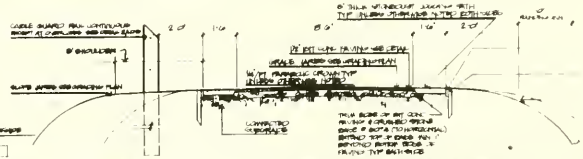
ELEVATION

1 LD8 TRASH CONTAINER
SCALE 1 1/2"=1'

4 LD8 RAMP HANDRAIL
SCALE 1/2"=1'

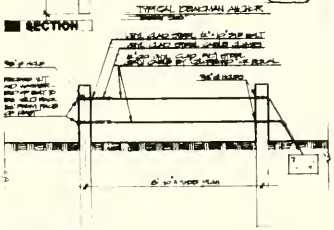


SECTION

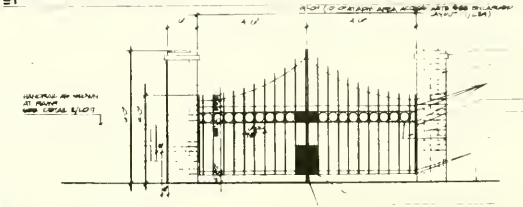


SECTION

5 LD8 BIKE PATH ALTERNATE #1,2,3
SCALE 1/2"=1'



ELEVATION



ELEVATION

2 LD8 POST AND CABLE ALTERNATE #1,2,3
SCALE 1/2"=1'

6 LD8 PUMP STATION GATE
SCALE 1/2"=1'

CITY OF COLUMBIA
SPES IN VIRTUTUM REGINA

COLUMBIA RIVERFRONT PARK AND HISTORIC COLUMBIA CANAL

COLUMBIA, SOUTH CAROLINA

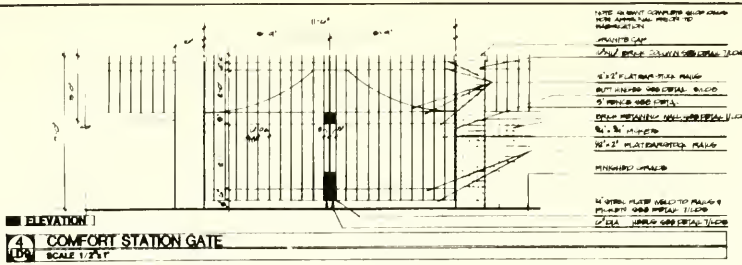
PAUL C.K. LU & ASSOCIATES
ARCHITECTS · LANDSCAPE ARCHITECTS
PLANNERS · URBAN DESIGNERS
BOSTON, MASS. · CHARLOTTE, N.C.

B P BARBER & ASSOCIATES
CONSULTING ENGINEERS
COLUMBIA, SOUTH CAROLINA

SITE DETAILS

REVISION	SCALE: AS NOTED DATE: 5-18-78 DRAWN: PW CHECKED: APPROVED:

LD-8

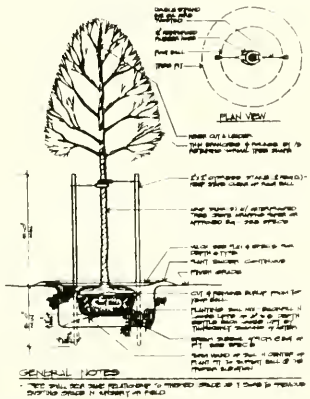


ELEVATION

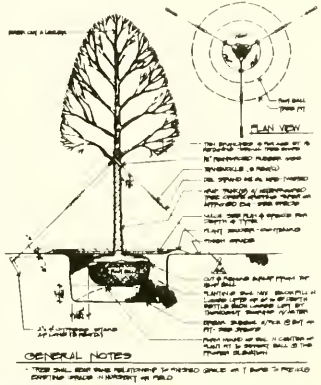
4 LD9 COMFORT STATION GATE
SCALE 1/2"=1'

PLANT LIST ALTERNATE NO 9

QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES				
10	ACER RUBRUM	RED MAPLE	6" - 8" CAL	B&B & BURLAP SPECIMEN
19	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	14' - 16' HT	B&B MINIMUM STEM 1½" CAL
81	CORNUS FLORIDA	FLOWERING DOGWOOD	1½" - 2" CAL	B&B SPECIMEN
53	LAGERSTROEMIA INDICA	CRAPE MYRTLE	3" - 4" CAL	B&B SPECIMEN
9	LIQUIDAMBAR STYRACIFLUA	SWEET GUM	4" - 5" CAL	B&B SPECIMEN
6	MAGNOLIA SOULANGEANA	SAUCER MAGNOLIA	3" - 4" CAL	B&B SPECIMEN
10	NYSSA SYLVATICA	BLACK TUPELO	4" - 5" CAL	B&B SPECIMEN
3	PINUS PALUSTRIS	LONGLEAF PINE	14' - 16' HT	B&B SPECIMEN
30	PINUS STROBUS	WHITE PINE	14' - 16' HT	B&B SPECIMEN
17	PINUS TEDA	LOBLOLLY PINE	14' - 16' HT	B&B SPECIMEN
4	PLATANUS OCCIDENTALIS	SYCAMORE	4" - 5" CAL	B&B SPECIMEN
8	QUERCUS LAURIFOLIA	LAUREL OAK	4" - 5" CAL	B&B SPECIMEN
19	QUERCUS NIGRA	WATER OAK	4" - 5" CAL	B&B SPECIMEN
84	QUERCUS PHELLOS	WILLOW OAK	4" - 5" CAL	B&B SPECIMEN
2	QUERCUS VIRGINIANA	LIVE OAK	4" - 5" CAL	B&B SPECIMEN
SHRUBS				
110	LONICERA SEMPERVIRENS	TRUMPET HONEYSUCKLE	2' - 2½' SPD	B&B SPECIMEN
23	ILEX CRENATA "STOKES"	STOKES JAPANESE HOLLY	2' - 2½' SPD	B&B SPECIMEN
58	FORSYTHIA SUSPENSA	WEEPING FORSYTHIA	2' - 2½' SPD	B&B SPECIMEN
4	JASMINUM MUDIFLORUM	WINTER JASMINE	18" - 24" SPD	B&B SPECIMEN
25	LEUCOTHOE FONTANESIANA	GROUPING LEUCOTHOE	2' - 2½' SPD	B&B SPECIMEN
18	MAHONIA FIMBATA	CLUSTER MAHONIA	2' - 2½' SPD	B&B SPECIMEN
131	MYRICA CERIFERA	WAX MYRTLE	2' - 2½' SPD	B&B SPECIMEN
138	PIERIS FLORIBUNDA	MOUNTAIN ANDROMEDA	2' - 2½' SPD	B&B SPECIMEN
90	RHODODENDRON CATAWBIENSE	CATAWBA RHODODENDRON	2½' - 3' SPD	B&B SPECIMEN
78	RHODODENDRON INDICA "FIELDERS"	INDIAN AZALEA WHITE	2½' - 3' SPD	B&B SPECIMEN
36	RHODODENDRON INDICA "DAPHNE"	INDIAN AZALEA SALMON	2½' - 3' SPD	B&B SPECIMEN
135	RHODODENDRON INDICA "JUDGE"	INDIAN AZALEA SALMON	2' - 2½' SPD	B&B SPECIMEN
39	RHODODENDRON LATEVIRENS	WILLOW RHODODENDRON	18" - 24" SPD	B&B SPECIMEN
91	RHODODENDRON OSTUSUM	COMMON RHODODENDRON	2' - 2½' SPD	B&B SPECIMEN
132	RHODODENDRON OSTUSUM	ORGANBELL VALLEY WHITE RHOD	18" - 24" SPD	B&B SPECIMEN
33	RHODODENDRON OSTUSUM	MIDDIGIRI RHODODENDRON	2' - 2½' SPD	B&B SPECIMEN
53	RHODODENDRON ROBBUM BLAGANS	ROBBUM RHODODENDRON	2½' - 3' SPD	B&B SPECIMEN
73	TRACHELOSPERMUM ASIATICUM	YELLOW STAR JASMINE	2 YEAR	POTTED
75	TRACHELOSPERMUM JASMINOIDES	STAR JASMINE	2 YEAR	POTTED
VINES				
350	EUONYMUS FORTUNEI	WINTER CREEPER	2 YEAR	POTTED
4,810	HEDERA HELIX 'BALTICA	BALTIC ENGLISH IVY	2 YEAR	POTTED
11	PARTHENOCISSUS QUINQUEFOLIA	VIRGINIA CREEPER	2 YEAR	POTTED
1500	VINCA MINOR	PERIWINKLE	2 YEAR	POTTED



1 LD9 TREE PLANTING - STAKING
SCALE 1/2"=1'



2 LD9 TREE PLANTING - GUYING
SCALE 1/2"=1'

3 LD9 SHRUB PLANTING
SCALE 1/2"=1'

CITY OF COLUMBIA
SCIENTIA VIRTUTUM REGINA

COLUMBIA RIVERFRONT PARK AND HISTORIC COLUMBIA CANAL

COLUMBIA, SOUTH CAROLINA

PAUL C.K. LU ▫ ASSOCIATES
ARCHITECTS · LANDSCAPE ARCHITECTS
PLANNERS · URBAN DESIGNERS
BOSTON MASS · CHARLOTTE N.C.

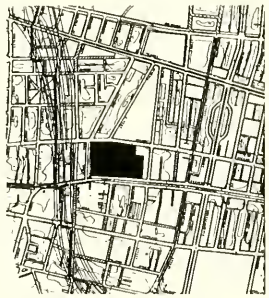
SITE DETAILS

PLANTING DETAILS

REVISION	SCALE: AS NOTED DATE: JULY 1978 DRAWN: PLK CHECKED: [illegible] APPROVED: PKL

LD-9

LOCATION MAP



PLANS FOR IMPROVEMENTS TO:

RAMSEY PARK

BOSTON, MASSACHUSETTS

1988 INAUGURAL

CONTRACT NO:

PREPARED FOR:

BOSTON PARKS AND RECREATION

FUNDED IN PART BY EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS, DIVISION OF CONSERVATION SERVICES, URBAN SELF HELP PROGRAM

THE HONORABLE RAYMOND L. FLYNN, MAYOR

WILLIAM B. COUGHLIN, COMMISSIONER

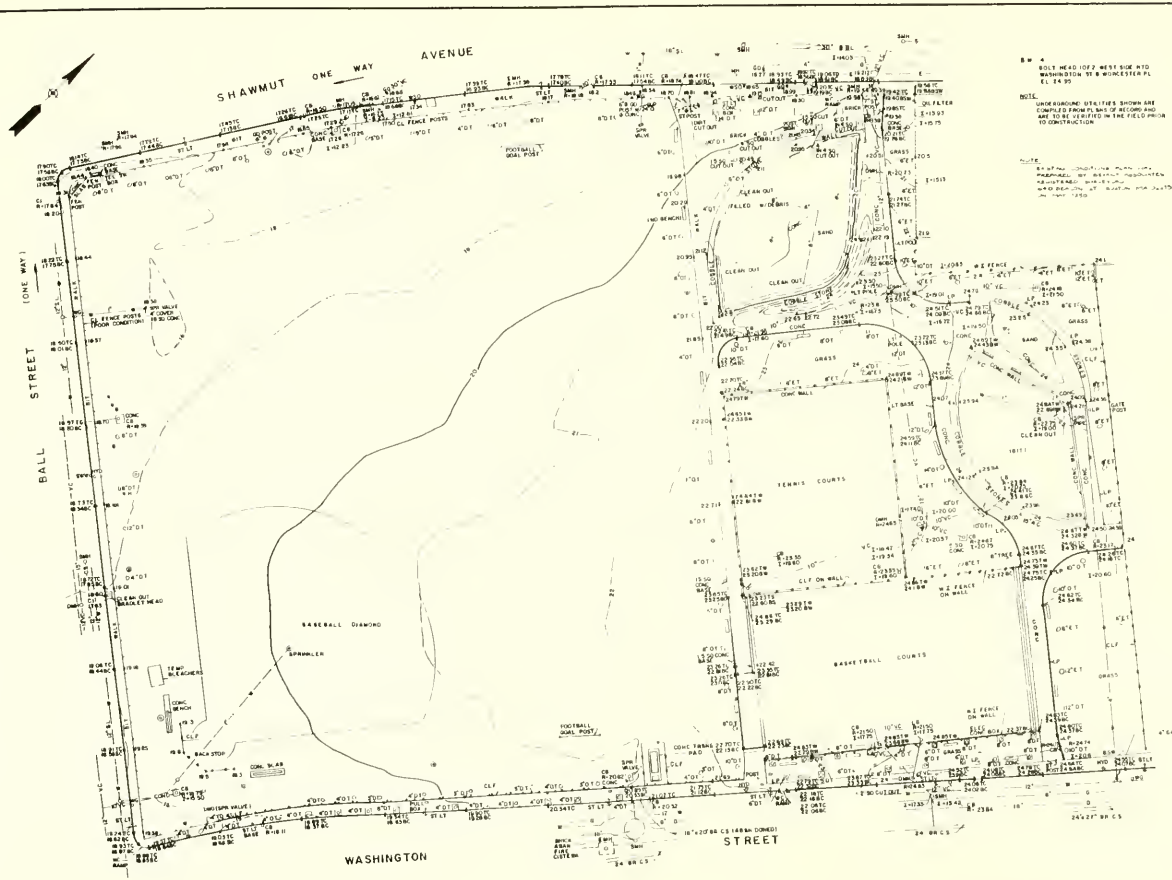
LIST OF DRAWINGS

L1. EXISTING CONDITIONS
L2. DEMOLITION PLAN
L3. LAYOUT PLAN
L4. PLANTING PLAN
L5. GRADING PLAN
L6. DETAILS
L7. DETAILS
L8. DETAILS
L9. DETAILS
L10. DETAILS
L11. DETAILS
L12. DETAILS

PAUL C.K. LU AND ASSOCIATES
LANDSCAPE ARCHITECTS
134 BEACH STREET, BOSTON, MA 02110

KEYES ASSOCIATES
CONSULTING ENGINEERS
ONE MOODY STREET, WALTHAM, MA 02154

BRYANT ASSOCIATES, INC.
SURVEY CONSULTANTS
648 BEACON STREET, BOSTON, MA 02215


SHAWMUT ONE WAY AVENUE
BALL STREET (ONE WAY)
WASHINGTON STREET
TENNIS COURTS
BASKETBALL COURTS
BASEBALL DIAMOND
SPRINKLER
FOOTBALL GOAL POST
BASKETBALL BACKSTOP
BENCH MARK
BM 4
BOLT HEAD 10FT WEST SIDE RTD WASHINGTON ST & WORCESTER PL EL 14.95
NOTE
UNDERGROUND UTILITIES SHOWN ARE COMPILED FROM PLANS OF RECORD AND ARE TO BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION

RAMSEY PARK

BOSTON MASS

LEGEND

W F	WATER FOUNTAIN
D M H	DRAIN MANHOLE
W M H	WATER MANHOLE
W B	WATER BOX
℄	℄
I	INVERT
D	DRAIN
W	WATER
E	ELECTRIC
FL LT	FLOOD LIGHT
TC	TOP OF CURB
BC	BOTTOM OF CURB
B O W	BACK OF WALK
B & B	BRICK AND BLOCK
C L F	CHAIN LINK FENCE
—— 80 ——	CONTOUR
CONC	CONCRETE
BIT	BITUMINOUS
H WD	HARD WOOD
T W	TOP OF WALL
B W	BOT OF WALL
MON	MONUMENT
TRANS	TRANSFORMER
C B	CATCH BASIN
R T D	RYDER ST
S	GAS
SMH	SEWER MANHOLE
GB	GAS GATE
GD	GAS DRIP
LP	LIGHT POLE
ST LT	STREET LIGHT
P	PULL BOX
W I FENCE	WROUGHT IRON FENCE
SPR	SPRINKLER
C L	CURB INLET
WC RAMP	WHEEL CHAIR RAMP
W SO	WATER SHUT OFF
	BENCH WITH CONC PAD
	DECIDUOUS TREE
	EVERGREEN TREE
	DEAD TREE
	DOUBLE STONE TREE PIT
	60' W PL 12' POLE 150' CON

FOR

BOSTON PARKS AND RECREATION DEPARTMENT

PAUL C.K. LU & ASSOCIATES

LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLANNERS
134 BEACH ST BOSTON MA 02116

KEYES ASSOCIATES

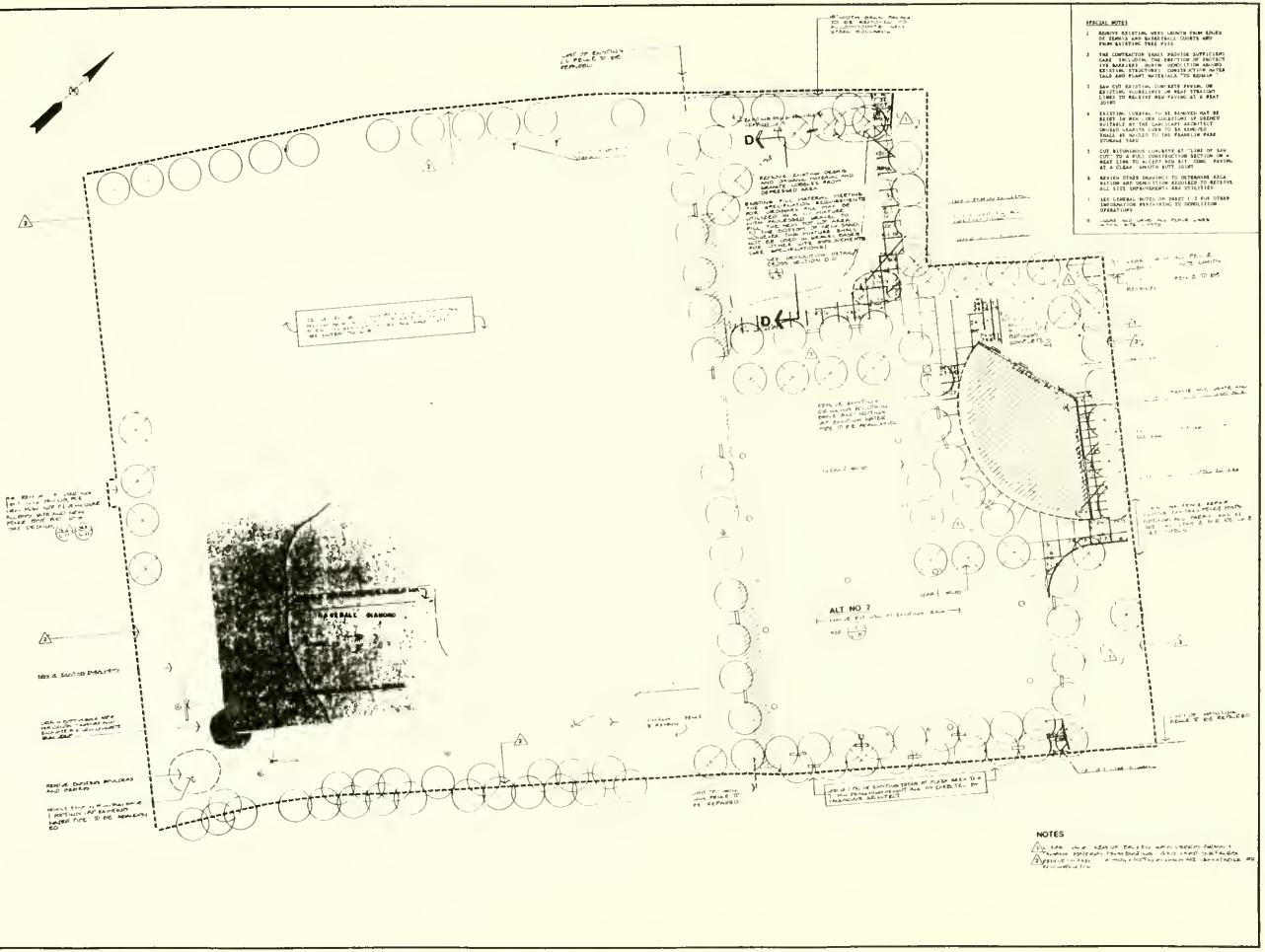
CONSULTING ENGINEERS
ONE MOODY ST WALTHAM MA 02154

BRYANT ASSOCIATES, INC.

SURVEY CONSULTANTS
648 BEACON ST BOSTON MA 02215

EXISTING CONDITIONS

L-1.



RAMSEY PARK

BOSTON, MASS

LEGEND

FOR

BOSTON PARKS AND RECREATION DEPARTMENT

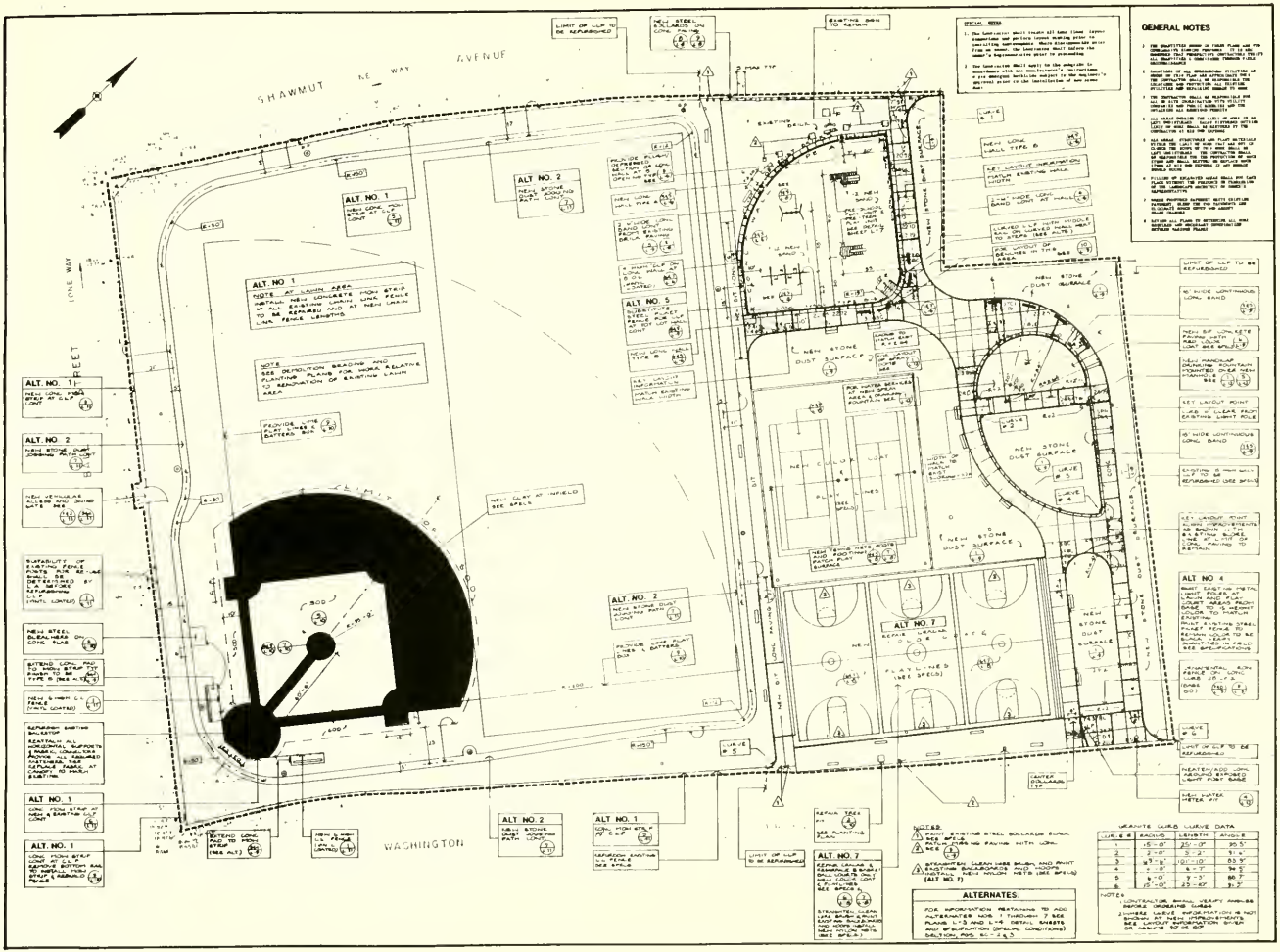
PAUL C K LU & ASSOCIATES
LANDSCAPE ARCHITECTS
URBAN DESIGNERS PLANNERS
134 BEACH ST BOSTON MA 02110

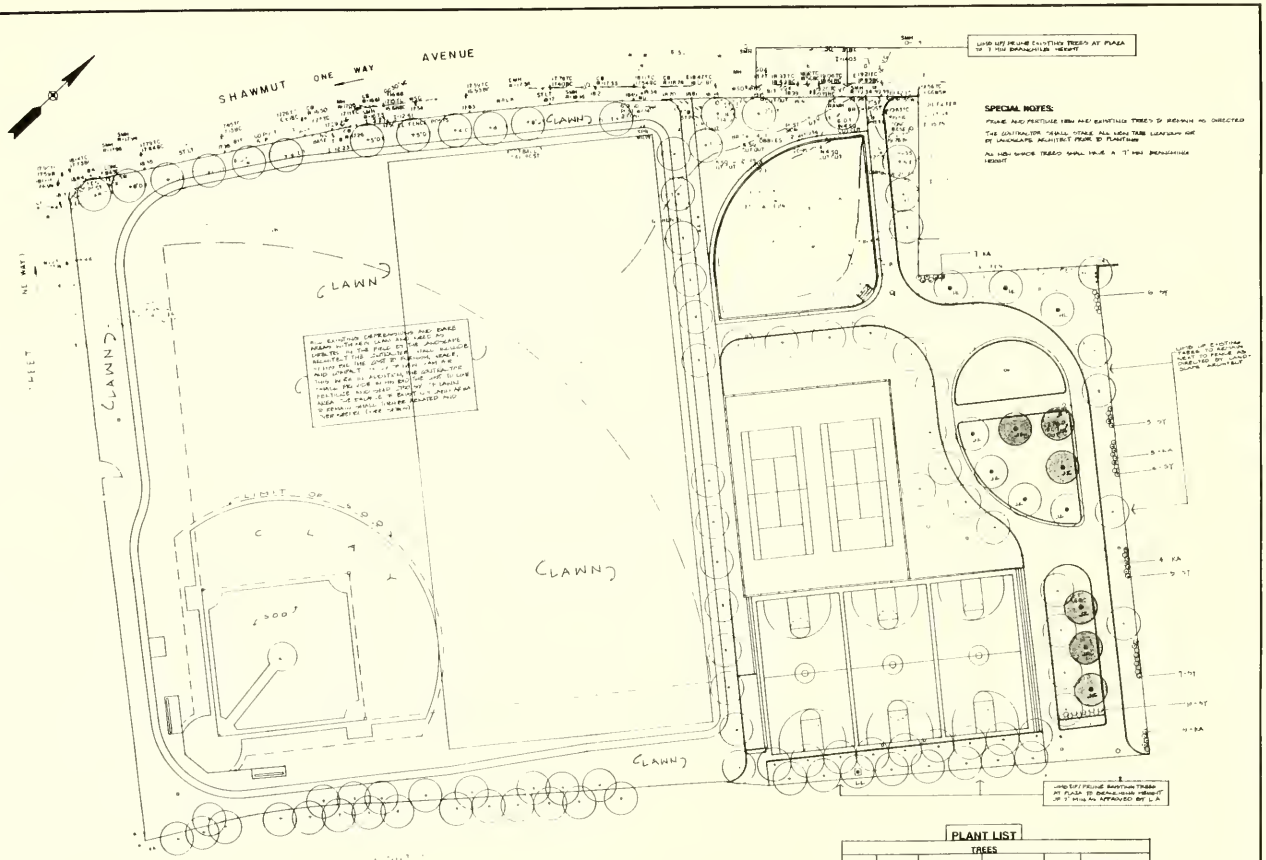
KEYES ASSOCIATES
CONSULTING ENGINEERS
ONE MOODY ST WALTHAM, MA 02154

BRYANT ASSOCIATES, INC
SURVEY CONSULTANTS
648 BEACON ST BOSTON MA 02215

DEMOLITION PLAN

L-2


SHAWMUT AVENUE
LIMIT OF LLP TO BE REFURBISHED
NEW STEEL & CONCRETE CURB
EXISTING TREE TO REMAIN
SPECIAL NOTES
GENERAL NOTES
ALT. NO. 1
ALT. NO. 2
ALT. NO. 5
ALT. NO. 7
NEW LOAM TYPE B
RE-LAYOUT IMPROVEMENTS MATCH EXISTING WIDTH
NEW STONE DUST SURFACE
NEW CHALK LINES
NEW BIT CONCRETE PAVING WITH LOAM SIDES
NEW BIT CONCRETE PAVING WITH GRANITE CURB
NEW MAKE-UP DRINKING FOUNTAIN MOUNTED ON NEW MANHOLE
SET LAYOUT POINT
NEW STONE DUST SURFACE
NEW BIT CONCRETE PAVING WITH GRANITE CURB
EXISTING & NEW WALL TO BE REFURBISHED (SEE SPECS)
NEW STONE DUST SURFACE
NEW CHALK LINES
NEW BASKETBALL BACKSTOPS AND FOOTINGS



PLANT LIST

TREES

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
JZ	6 EXIST 5 NEW	JUNIPERUS VIRGINIANA 'SKYROCKET'	SKYROCKET JUNIPER	4' MIN.	B&B
Ln	1 EXIST 1 NEW	LIRIODENDRON TULIPIFERA	TULIP TREE	4" CAL.	FULL, UNIFORM SHAPE, VIGOROUS
Pn	3 EXIST 3 NEW	PYRUS CALLERYANA 'BRADFORD'	BRADFORD FLOWERING PEAR	4" CAL.	"

SHRUBS

Y	4 EXIST 27 NEW	YUCCA FILAMENTOSA	ADAM'S NEEDLE	2 GAL	B&B
RA	27 NEW	RHODODENDRON 'ROSEUM ELEGANS'	ROSEUM ELEGANS	2 GAL	FULL, UNIFORM

NOTE: SEE INFORMATION ON PLANTING ALTERNATES ABOVE & RIGHT

RAMSEY PARK

BOSTON, MASS.

LEGEND

- EXISTING TREE TO REMAIN
- NEW DECIDUOUS TREE
- PLANT TYPE SYMBOL
- EXISTING SHRUB TREE PIT TO BE REMOVED
- NEW SHRUB PLANTING
- ALT. ALTERNATE
- B&B BALL AND BURLAP

ALTERNATES

ALT. NO. 3
NEW DECIDUOUS TREES - 4 JZ

ALT. NO. 6
NEW SHRUB PLANTING 31 - RA & 27 - RY

NOTE
SEE PLANTING LIST FOR KEY TO PLANT SYMBOLS, QUANTITIES, SIZES, & REMARKS. SEE ALTS. 3 & 6 FOR ALTERNATE PLANTING SELECTIONS.

FOR
BOSTON PARKS AND RECREATION DEPARTMENT

PAUL C.K. LU & ASSOCIATES
LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLANNERS
134 BEACH ST BOSTON, MA 02110

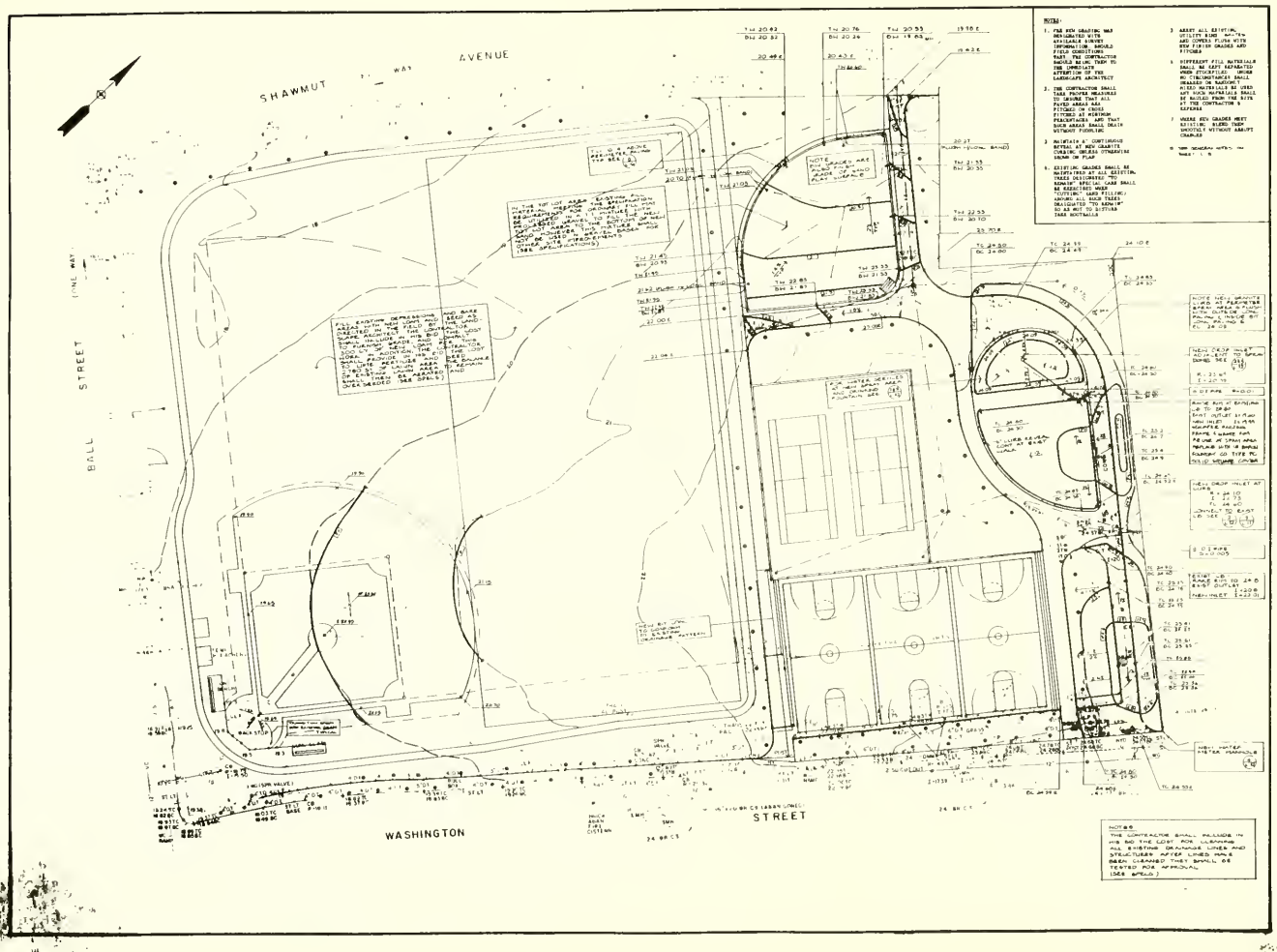
KEYES ASSOCIATES
CONSULTING ENGINEERS
ONE MOODY ST WALTHAM, MA 02154

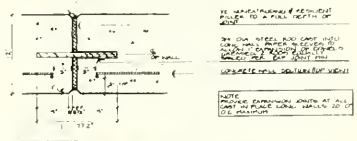
BRYANT ASSOCIATES, INC.
SURVEY CONSULTANTS
848 BEACON ST BOSTON, MA 02215

PLANTING PLAN

SCALE 1"=40'
DATE SEPT. 29, 1980
DRAWN L.W.
CHECKED L.W.
APPROVED P.L.

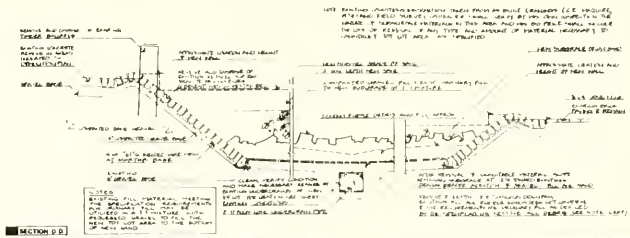
L-4


SHAWMUT AVENUE
BALL STREET (ONE WAY)
WASHINGTON STREET
NOTES:
1. FOR NEW GRADING WAS COORDINATED WITH AVAILABLE SURVEY INFORMATION. SHOULD FIELD CONDITIONS VARY, THE CONTRACTOR SHOULD BRING THEM TO THE IMMEDIATE ATTENTION OF THE LANDSCAPE ARCHITECT
2. THE CONTRACTOR SHALL TAKE PROPER MEASURES TO ENSURE THAT ALL PAVED AREAS ARE FITTED ON CROSS PITCHES AT MINIMUM PERCENTAGES AND THAT SUCH AREAS SHALL DRAIN WITHOUT PUDDLING.
3. MAINTAIN A CONTINUOUS REVEAL AT NEW GRANITE CURBING UNLESS OTHERWISE SHOWN OR FLAT.
4. EXISTING GRADES SHALL BE MAINTAINED AT EDGE CONDITIONS, UNLESS OTHERWISE NOTED. SPECIAL CARE SHALL BE EXERCISED WHEN TRANSITIONS, LAWN FILLING, AND GRADING IS TO BE DESIGNATED TO ASSURE SO AS NOT TO DISTURB TREE ROOTBALLS
5. ADJUST ALL EXISTING UTILITY RIMS WITHIN NEW PAVED AREAS AND COVERS FLUSH WITH NEW FINISH GRADES AND PITCHES
6. DIFFERENT FILL MATERIALS SHALL BE KEPT SEPARATED WHEN STOCKPILED. UNSUITABLE FILL SHALL BE DISPOSED OF OFFSITE. MIXED MATERIALS BE USED. LEFT OVER MATERIALS SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR'S EXPENSE.
7. WHERE NEW GRADES MEET EXISTING, BLEND THEM SMOOTHLY WITHOUT ABRUPT CHANGES
8. SEE DEMOLITION NOTES (No. 1 & 2)
NOTE #6
THE CONTRACTOR SHALL INCLUDE IN HIS BID THE COST FOR CLEANING ALL EXISTING DRAINAGE LINES AND STRUCTURES AFTER LINES HAVE BEEN CLEANED THEY SHALL BE TESTED FOR APPROVAL (SEE SPECS.)
RAMSEY PARK
BOSTON, MASS
LEGEND
FOR
BOSTON PARKS AND RECREATION DEPARTMENT
PAUL C.K. LU & ASSOCIATES
LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLANNERS
134 BEACH ST. BOSTON, MA 02110
KEYES ASSOCIATES
CONSULTING ENGINEERS
ONE MOODY ST WALTHAM, MA 02154
BRYANT ASSOCIATES, INC
SURVEY CONSULTANTS
640 BEACON ST BOSTON,MA 02215
GRADING & DRAINAGE PLAN
L-5



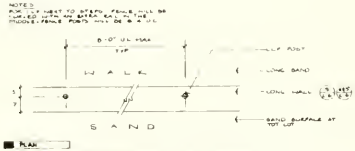
PLAN SECTION

5 EXPANSION JOINT (AT CONC. WALLS)
NTS



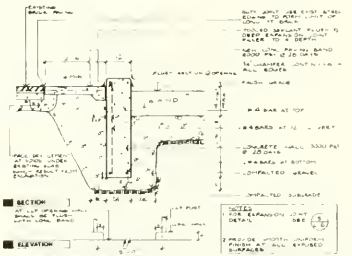
SECTION D.D.

2 EXISTING CONDITIONS & DEMOLITION DETAIL FOR NEW TOT LOT AREA
SCALE 1/2" = 1'-0"



PLAN

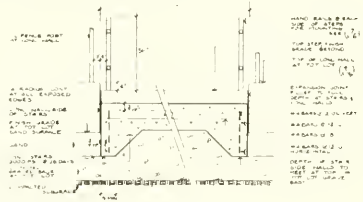
6 CL FENCE AT TOT LOT
SCALE 3/4" = 1'-0"



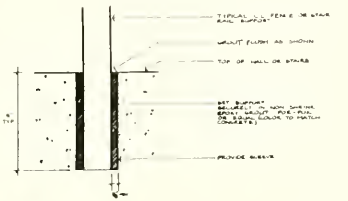
SECTION

ELEVATION

3 RETAINING WALL TYPE A
SCALE 3/4" = 1

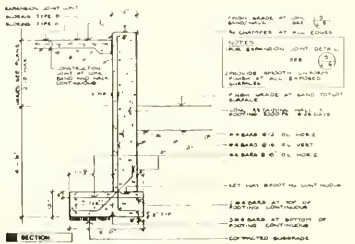


SECTION



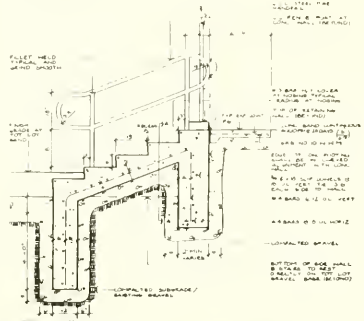
SECTION

7 C.I.F. & STEEL PIPE HANDRAIL MOUNTING IN CONC. STRUCTURE
SCALE 3/4" = 1'



SECTION

4 RETAINING WALL TYPE B
SCALE 3/4" = 1'-0"



SECTION

1 STEPS AT TOT LOT
SCALE 3/4" = 1

RAMSEY PARK

BOSTON, MASS

BOSTON PARKS AND RECREATION DEPARTMENT

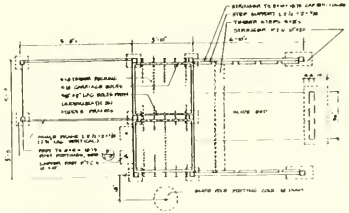
PAUL C.K. LU + ASSOCIATES
LANDSCAPE ARCHITECTS
URBAN DESIGNERS PLANNERS
138 BEACH ST. BOSTON MA 02111

KEYES ASSOCIATES
CONSULTING ENGINEERS
ONE MOODY ST. WALTHAM MA 02154

BRYANT ASSOCIATES INC
SURVEY + MAPPING
648 BEACON ST. BOSTON MA 02215

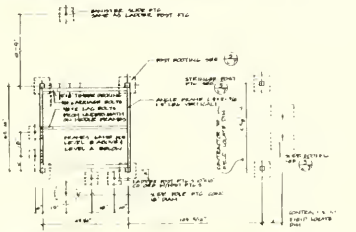
DETAILS

L-6



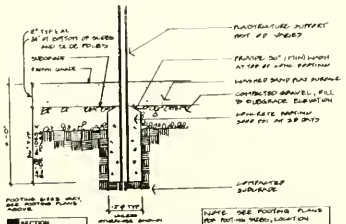
PLAN

3 FRAMING & FOOTING PLAN - PRE-SCHOOL PLAY UNIT WE #2873
N.T.S



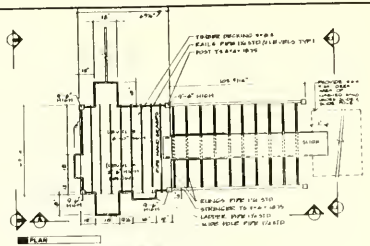
PLAN

4 FRAMING & FOOTING PLAN - PRE-TEEN PLAY UNIT WE #2508
N.T.S

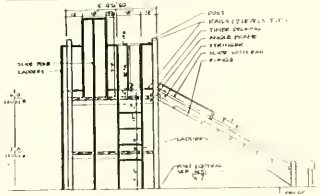


SECTION

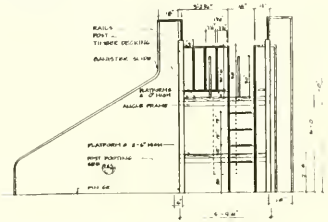
5 CONCRETE FOOTING DETAIL FOR PLAY STRUCTURES
N.T.S



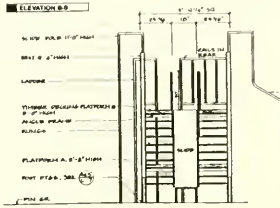
PLAN



ELEVATION A-A



ELEVATION B-B



ELEVATION C-C

GENERAL NOTES

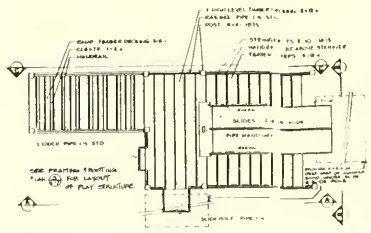
1. PLAY STRUCTURES TO BE UNITS WE #2508 AND #2873 MANUFACTURED BY:
   MIDWEST ENVIRONMENTAL, INC.
   1699 EYSENBERG AVENUE
   DEFIANCE, OHIO 43512
   (419) 782-1492
   (419) 725-1559
   OR APPROVED EQUALS

2. CONTRACTOR TO ASSEMBLE PLAY STRUCTURE AS PER MANUFACTURER'S INSTRUCTIONS
   *TIONS SEE SPECIFICATIONS

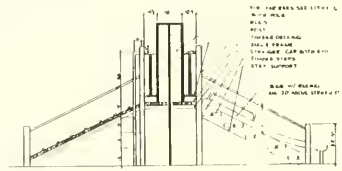
3. FOR ADDITIONAL DETAILS, SECTIONS SEE SPECIFICATION SECTION # 01 - PLAY-GROUND EQUIPMENT

4. PROVIDE 1'-6"x 2'-6" DEEP HAND POCKETS IN CONC. AS SHOWN AND GRADE SLOPE AWAY FROM STRUCTURE

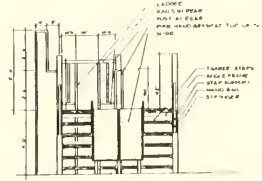
2 PRE-TEEN PLAY UNIT WE# 2508 DETAILS
N.T.S



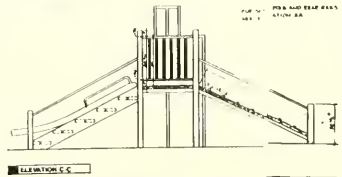
PLAN



ELEVATION A-A



ELEVATION B-B



ELEVATION C-C

1 PRE-SCHOOL PLAY UNIT WE #2873 DETAILS
N.T.S

HOSTONIA CURITA AD. 1630

RAMSEY PARK

BOSTON MASS

FOR

BOSTON PARKS AND RECREATION DEPARTMENT

PAUL C.K. LU & ASSOCIATES
LANDSCAPE ARCHITECTS
URBAN DESIGNERS PLANNERS
134 BEACH ST BOSTON MA 02110

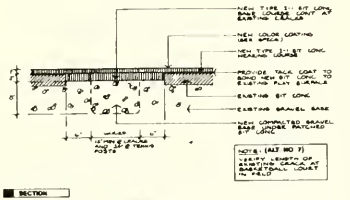
KEYES ASSOCIATES
CONSULTING ENGINEERS
ONE WOODY ST. WALTHAM MA 02154

BRYANT ASSOCIATES INC
SURVEY CONSULTANTS
648 BEACON ST BOSTON MA 02215

DETAILS

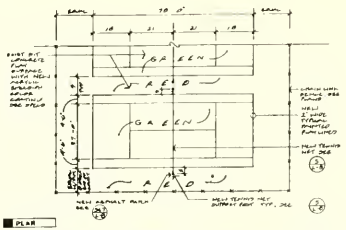
SCALE —
DATE SEPT 30 1986
DRAWN K.K.
CHECKED L.K.
APPROVED P.L.

L-7



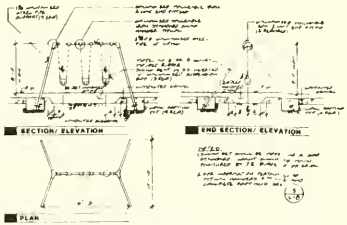
SECTION

7 BIT. CONC. PLAY SURFACE REPAIR
SCALE: 1 1/2" = 1'-0"



PLAN

4 NEW TENNIS COURT, TYPICAL
SCALE: 1/16" = 1'-0"

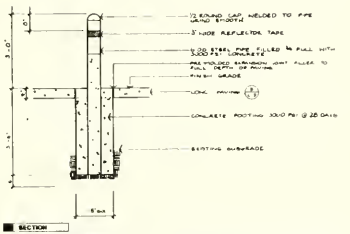


SECTION/ ELEVATION

END SECTION/ ELEVATION

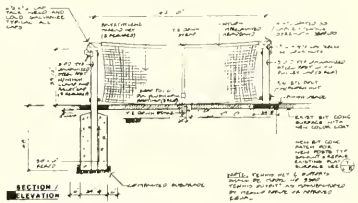
PLAN

1 SWING SET - TODDLER UNIT
SCALE: 3/16" 1'-0"



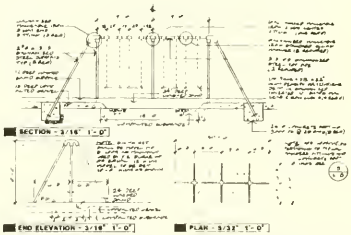
SECTION

8 STEEL BOLLARDS
SCALE 3/4" = 1'-0"



SECTION / ELEVATION

5 TENNIS NET & SUPPORT POSTS
N.T.S

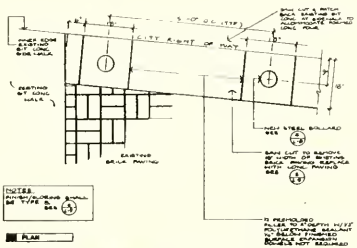


SECTION - 3/16" 1'-0"

END ELEVATION - 3/16" 1'-0"

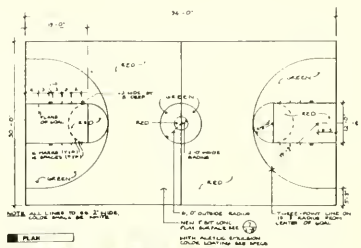
PLAN - 3/32" 1'-0"

2 SWING SET - 4 SWING UNIT
SCALE AS SHOWN



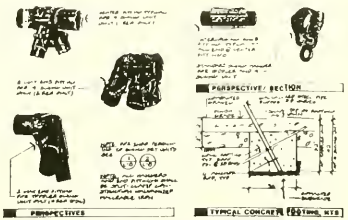
PLAN

9 STEEL BOLLARDS @ SHAWMUT AVE. ENTRANCE
SCALE: 1" = 1'-0"



PLAN

6 BASKETBALL COURT LAYOUT (ALTERNATE NO. 7)
SCALE: 1" = 10'-0"



PERSPECTIVES

PERSPECTIVE/ SECTION

TYPICAL CONCRETE FOOTING, NTS

3 FITTINGS & FOOTINGS FOR TODDLER & 4 UNIT SWING
NTS

BOSTONIA CONDITA A.D. MDCCCXXX

RAMSEY PARK

BOSTON MASS

FOR

BOSTON PARKS AND RECREATION DEPARTMENT

PAUL C.K. LU & ASSOCIATES
LANDSCAPE ARCHITECTS
URBAN DESIGNERS PLANNERS
131 BEACH ST BOSTON, MA 02110

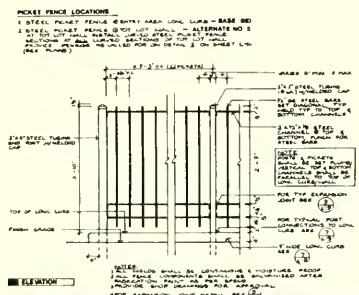
KEYES ASSOCIATES
CONSULTING ENGINEERS
ONE WOODY ST WALTHAM MA 02154

BRYANT ASSOCIATES INC
SURVEY CONSULTANTS
646 BEACON ST BOSTON MA 02215

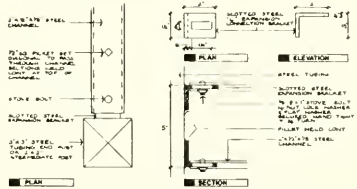
DETAILS

SCALE —
DATE SEPT. 25, 1980
DRAWN LM
CHECKED LM
APPROVED PL

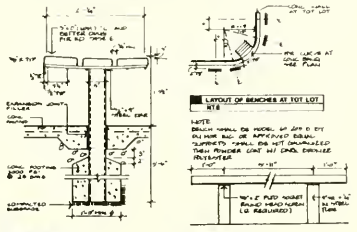
L-8


PICKET FENCE LOCATIONS
1 STEEL PICKET FENCE @ ENTRY AREA LONG CURB – BASE BID
2 STEEL PICKET FENCE @ TOT LOT WALL – ALTERNATE NO 5
ELEVATION
SECTION

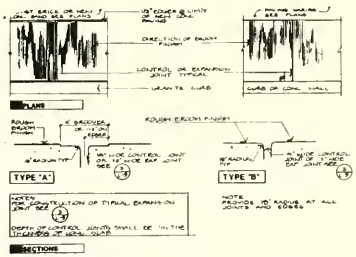
8 STEEL PICKET FENCE (TO MATCH EXISTING) (ALT. NO.5 @ TOT LOT WALL)
SCALE 1" = 1'-0"



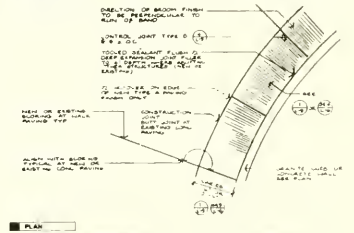
9 EXPANSION CONNECTION AT FENCE POSTS
SCALE: 1/2" = 1"



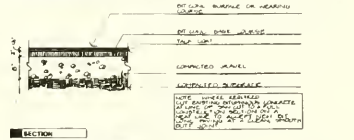
10 BENCHES
SCALE: 1 1/2" = 1'-0"



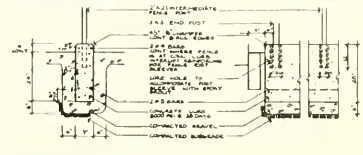
4 TYPICAL CONC. PAVING FINISHES
N.T.S.



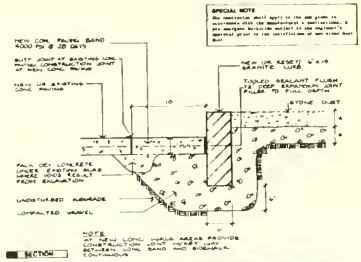
5 CONCRETE BAND FINISH
N.T.S.



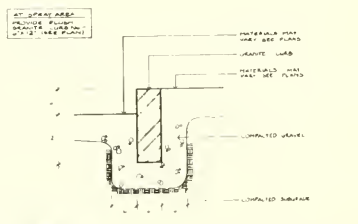
6 BITUMINOUS CONCRETE
N.T.S.



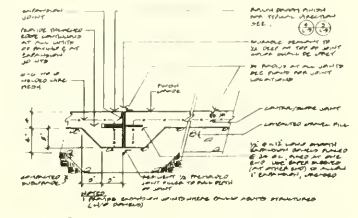
7 CONCRETE CURB AT ENTRANCE FENCE
SCALE 3/4" = 1



1 GRANITE CURB WITH CONC. PAVING BAND & STONEDUST SURFACING
SCALE 1 1/2" = 1'-0"



2 GRANITE CURB
SCALE 1 1/2" = 1'-0"



3 CONCRETE PAVING
SCALE: 1-1/2" 1'-0"

RAMSEY PARK
BOSTON MASS

FOR
BOSTON PARKS AND RECREATION DEPARTMENT

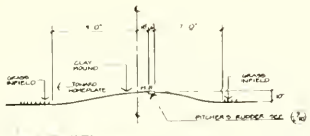
PAUL C.K. LU & ASSOCIATES
LANDSCAPE ARCHITECTS
URBAN DESIGNERS PLANNERS
134 BEACON ST BOSTON, MA 02116

GZYES ASSOCIATES
CONSULTING ENGINEERS
ONE BRUCE ST WALTHAM MA 02154

BRYANT ASSOCIATES, INC
SURVEY CONSULTANTS
948 BEACON ST BOSTON MA 02215

DETAILS

L-9

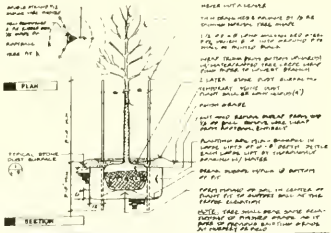


ELEVATION

7 BASEBALL PITCHER'S MOUND
N.T.S.

SECTION

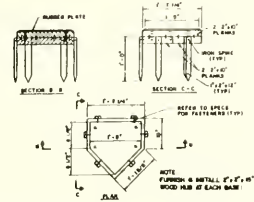
4 CLAY INFIELD MIX
SCALE: N.T.S.



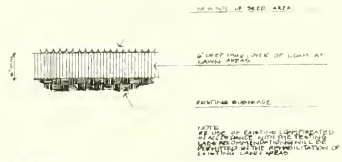
PLAN

SECTION

1 TREE PLANTING
SCALE: 1/4"=1'-0"

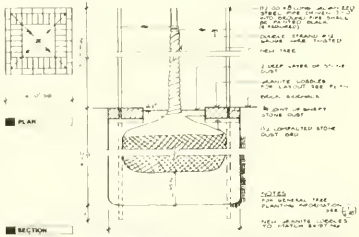


8 BASEBALL HOME PLATE
N.T.S.



SECTION

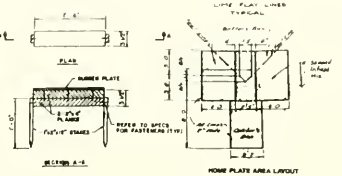
5 LOAM AT SEED AND SOD AREAS
SCALE: 1/4"=1'-0"



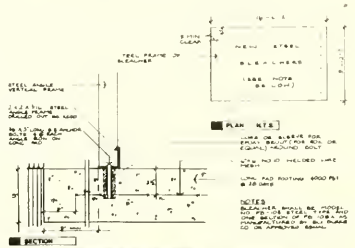
PLAN

SECTION

2 TREE PLANTING AT COBBLE PITS



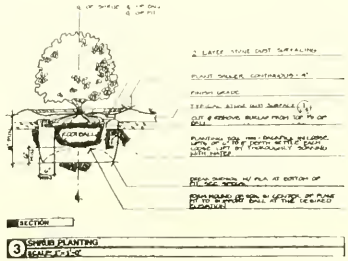
9 PITCHER'S PLATE
N.T.S.



PLAN N.T.S.

SECTION

6 CONC. PAD FOOTING FOR BLEACHERS
SCALE: 1"=1'-0"



SECTION

3 SHRUB PLANTING
SCALE: 1/2"=1'-0"

RAMSEY PARK

BOSTON MASS

BOSTON PARKS AND RECREATION DEPARTMENT

PAUL C.K. LU & ASSOCIATES
LANDSCAPE ARCHITECTS
URBAN DESIGNERS PLANNERS
134 BEACH ST BOSTON MA 02110

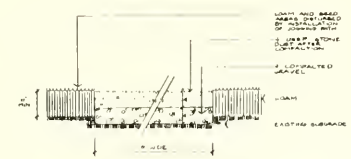
KEYES ASSOCIATES
CONSULTING ENGINEERS
LINE WOUGHT ST WALTHAM MA 02154

BRYANT ASSOCIATES INC
SURVEY CONSULTANTS
948 BEACON ST BOSTON MA 02215

DETAILS

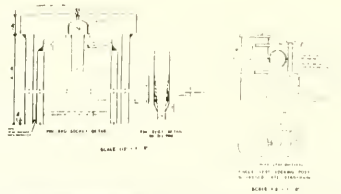
DATE SEPT. 26, 1980

L-10

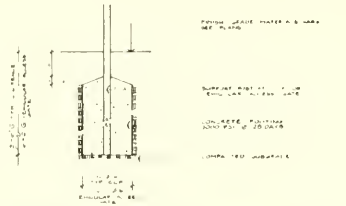


SECTION

7 STONE DUST JOGGING PATN (ALTERNATE NO 2)
SCALE 1 1/2" = 1'-0"

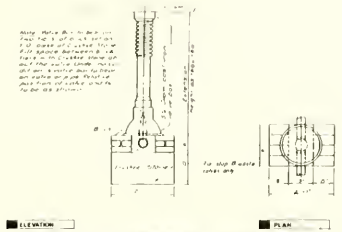


4 VEHICULAR GATE DETAILS



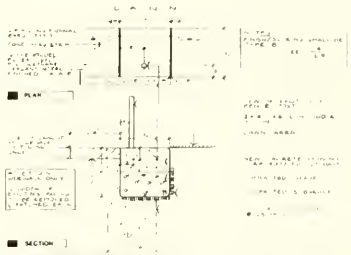
SECTION

1 TYP. CONC. FOOTING W OUT MOW STRIP (BASE BID)
SCALE 1 1/2" = 1'-0"



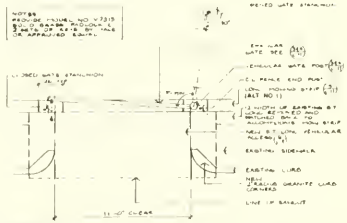
ELEVATION PLAN

8 VALVE BOX SETTING (STOP AND WASTE)
NOT TO SCALE



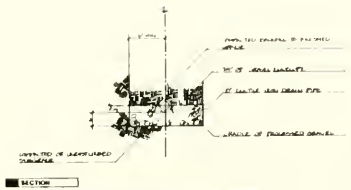
PLAN SECTION

5 CONCRETE MOWING STRIP ALONG SIDEWALK (ALTERNATE NO 1)
SCALE 1 1/2" = 1'-0"



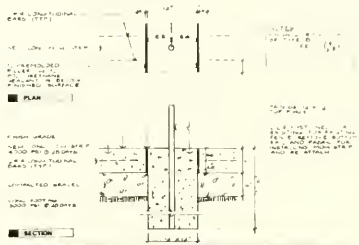
PLAN

2 VEHICULAR ACCESS
SCALE 3/8" = 1'-0"



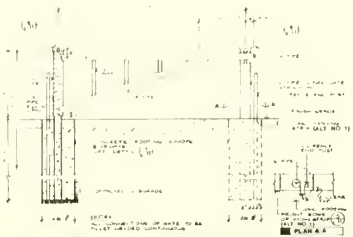
SECTION

9 STORM DRAIN - IRON PIPE TRENCH
NOT TO SCALE



PLAN SECTION

6 CONC. MOW. STRIP & CLF FOOTING @ BACKSTOP & NEW CLF (ALT NO 1)
SCALE 1 1/2" = 1'-0"



PLAN A-A

3 SINGLE LEAF VEHICULAR GATE
SCALE 1/2" = 1'-0"

RAMSEY PARK

BOSTON MASS

BOSTON PARKS AND RECREATION DEPARTMENT

PAUL C.K. LU & ASSOCIATES
LANDSCAPE ARCHITECTS
URBAN DESIGNERS & PLANNERS
11 BEACON ST. BOSTON, MASS.

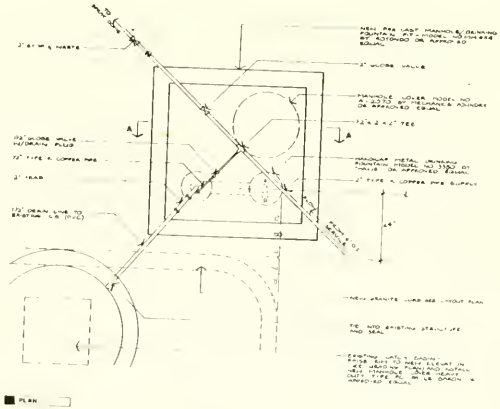
KEYES ASSOCIATES
CONSULTING ENGINEERS
ONE WOODY ST. WALTHAM, MASS.

BRYANT ASSOCIATES INC
SURVEY CONSULTANTS
WEBSTER ST. BOSTON, MASS.

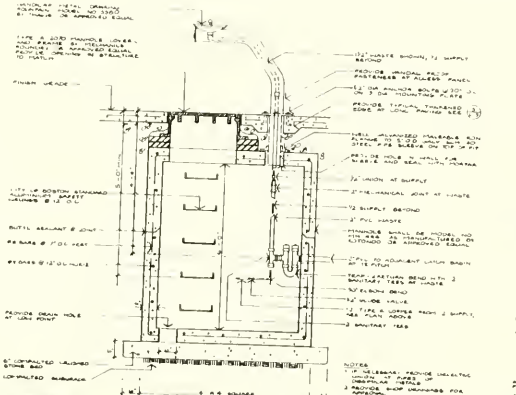
DETAILS

SCALE
DATE SEPT. 30 1980
DRAWN J. HAN
CHECKED J. D.
APPROVED P. C.

L-11

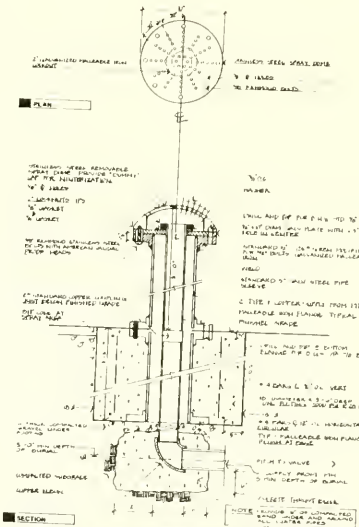


PLAN



SECTION A-A

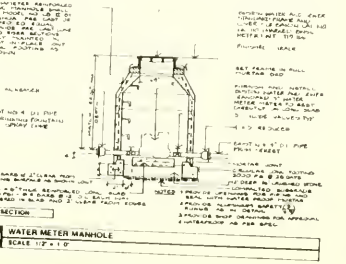
5 DRINKING FOUNTAIN ON NEW MANHOLE
SCALE 1" = 1'-0"



PLAN

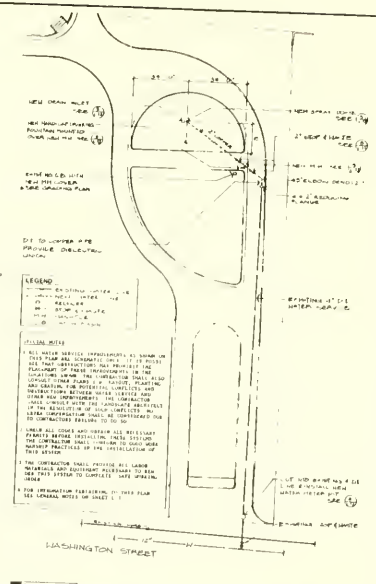
SECTION

3 REMOVABLE SPRAY DOME
SCALE 3" = 1'-0"



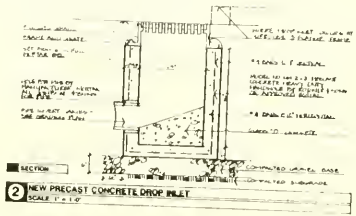
SECTION

4 WATER METER MANHOLE
SCALE 1 1/2" = 1'-0"



PLAN

1 WATER SERVICE
SCALE 1" = 20'-0"



SECTION

2 NEW PRECAST CONCRETE DROP INLET
SCALE 1" = 1'-0"

RAMSEY PARK

BOSTON MASS

FOR

BOSTON PARKS AND RECREATION DEPARTMENT

PAUL C K LU & ASSOCIATES

LANDSCAPE ARCHITECTS
URBAN DESIGNERS PLANNERS
114 BEALS ST BOSTON MA 02130

KEYES ASSOCIATES

CONSULTING ENGINEERS
ONE WOODY ST WALTHAM MA 02154

BRYANT ASSOCIATES INC

SURVEY CONSULTANTS
510 BEACON ST BOSTON MA 02215

DETAILS

L-12

PAUL C. K. LU and ASSOCIATES (MBE)

Landscape Architecture / Urban Design / Site Planning

Selected Project List

The award-winning, minority owned firm of Paul C. K. Lu and Associates (MBE) practices landscape architecture, site planning and urban design. The following project listing includes :

- **Urban Planning and Design**
- **Open Space Planning and Design**
- **Transportation Facilities Planning and Design**
- **Industrial/Commercial Planning and Design**

The key to our role in the various projects listed is as follows:

(P) Prime Contractor
(C) Consultant
(JV) Joint Venture
(IE) Individual Experience (Paul C. K. Lu only)

- **Lowell Historical Central Business District Streetscape, Lowell, Massachusetts** (P)

  Master planning, design vocabulary, and development guidelines for one mile long of Historic Downtown Area. Landscape architectural and civil engineering services for Phase I and Phase II implementation. For the Department of Community Development, City of Lowell, Massachusetts.

- **Market Square Urban Design, Fayetteville, North Carolina** (P)

  Schematic design of regional landmark and its surroundings. Services included Old Market Building renovation, redesigning of plazas, and traffic re-routing. For the City of Fayetteville, North Carolina.

- **Framingham Downtown Revitalization, Framingham, Massachusetts** (P)

  Master planning and urban design for Downtown Central Business District. Landscape architectural services for Phase I and Phase II Implementation. For the Town of Framingham, Massachusetts.

- **Augusta Water Street Signage Improvement, Augusta, Maine** (P)

  Facade and Signage Improvement Program and Development Guidelines for main street at the State Capital. Preparation of case study for implementation. For the Department of Community Development, City of Augusta, Maine.

- **Ecumenical Plaza, Lowell, Massachusetts** (P)

  Urban planning, design and implementation for an urban plaza between two landmark churches in historic neighborhood. For the City of Lowell, Massachusetts.

- **Raleigh Central Business District Streetscape** (P)

  Urban design and landscape architectural services for 10 blocks of downtown streetscape. Lu & Sears. For the City of Raleigh, North Carolina.

- **Boston Central Business District Boston, Massachusetts** (IE)

  Planning study for the Boston Central Business District. The study included land use allocation, pedestrian and vehicular system development, parking, and the redevelopment of various sites. For the Boston Redevelopment Authority, Boston, Massachusetts. (Work completed while employed as a planner/designer at Victor Gruen Associates)

- **Amesbury Downtown Streetscape, Amesbury, Massachusetts** (P)

  Urban Design and Landscape Architectural Services for Amesbury Central Business District. Services included Grant Application. For the Town of Amesbury, Massachusetts.

- **Fayetteville Transit Mall, Fayetteville, North Carolina** (C)

  Urban design and implementation for Bus/Pedestrian Mall in Downtown Fayetteville. Established citizen participation program and secured funding mechanisms for implementation. For the City of Fayetteville, North Carolina. Consultant to Parsons Brinckerhoff Quade Douglas.

- **Statesville Downtown Urban Design, Statesville, North Carolina** (C)

  Master planning, landscape architectural services, facade design, and signage design for Statesville Central Business District. For the Statesville Chamber of Commerce, Statesville, North Carolina

- **Rochester Central Business District, Rochester, Minnesota** (IE)

  Development of strategies for long-term growth of the Central Business District. Urban design services for the core area of the District. (Work completed while employed as a project manager/designer at Sasaki Associates, Inc.)

- **St.Louis Gateway Mall Planning and Design, St. Louis, Missouri** (P)

  Urban design and landscape architectural services for 24 blocks in Downtown St. Louis. Design elements included: open space systems; vehicular and pedestrian systems; parking systems; and general massing of all blocks. For Downtown St. Louis, Inc., St. Louis, Missouri.

- **Hot Springs Central Business District, Hot Springs, Arkansas** (JV)

  Urban design and landscape architectural services for Central Business District of resort town within Hot Springs National Park. For the City of Hot Springs, Arkansas.

- **Newton Village Study, Newton, Massachusetts** (C)

  Urban design services as part of city-wide master planning and zoning study. Services were highlighted by the visual and functional evaluation of the 13 village centers toward the production of village and city-wide urban design recommendations. For Connery Associates, Winchester, Massachusetts.

- **Greenville Main Street Transit Mall, Greenville, South Carolina** (C)

  Urban design and feasibility study for Main Street transit mall, transit transfer facility, and multi-modal transit center. For the Greenville Transit Authority, Greenville, South Carolina. Consultant to Parsons Brinckerhoff Quade and Douglas.

- **Hyattesville Renaissance, Hyattesville Maryland** (C)

  Master planning and urban design services as part of an economic revitalization effort. Study emphasized enhanced visibility and community image to neighboring cities and improvements to existing urban environment. For the City of Hyattesville, Maryland.

- **Wakefield Urban Design, Wakefield, Massachusetts** (P)

  Master planning and schematic design services for improvements to Town retail district. Services included streetscape and plaza design, parking improvements and location of public transit connection. For the Town of Wakefield, Massachusetts.

- **Belmont Center Revitalization Study, Belmont, Massachusetts** (C)

  Urban design services as part of planning study for suburban town retail district. Services involved the analysis of the existing urban character and schematic designs which complement recommendations of prime consultant. For Connery Associates, Winchester, Massachusetts.

- **Moxie Alley, Berlin, New Hampshire** (P)

  Urban design and planning services at historic C.B.D. of New England mill town. Design for new open retail mall with plazas, amphitheater and pedestrian bridges, while highlighting existing natural features. For the City of Berlin, New Hampshire.

- **Pepperell Center R. R. Depot, Pepperell, Massachusetts** (C)

  Master planning and schematic design for town retail block at existing railroad station. Design included streetscape improvements, town parking lot design with civic open space. For Joyce Associates, Lowell, Massachusetts.

- **West Palm Beach Urban Design, West Palm Beach, Florida** (P)

  Award-winning urban design and master planning submission for waterfront suburban community. Design features include road re-alignment and open space improvements to enhance linkages and accessibility to the retail district and Lake Worth. With Frank James, for the City of West Palm Beach, Florida.

- **Benco Commercial Area Study, Washington, D.C.** (P)

  Urban planning and design services for commercial area revitalization study. Study highlighted recommendations for enhanced visibility and visual quality of urban fabric while maximizing existing multi modal linkages and accessibility. For District of Columbia Office of Business and Economic Development - OBED, Washington, D.C.

OPEN SPACE PLANNING AND DESIGN

o **Spicket River Park, Lawrence, Massachusetts** (P)

Planning, design documents, construction documents, and field observation for a nine-acre active and passive park. Active park included basketball court, softball field, and multiple use football and soccer fields. Passive park included picnic area, nature trail, and parking. For the Lawrence Redevelopment Authority, City of Lawrence, Massachusetts.

o **Mullaney and Leonard Parks, Lawrence, Massachusetts** (P)

Master planning, design development, construction documentation, and construction supervision for two parks including; little league baseball fields, basketball courts, handball court, and tot lot. For the Department of Planning and Community Development, City of Lawrence, Massachusetts.

o **Lynn Heritage State Park Visitors' Center** (P)

Site planning, design, and construction documents for a passive park, multi-purpose plaza, and parking facilities. For the Commonwealth of Massachusetts, Department of Environmental Management, Boston, Massachusetts.

o **Columbia Riverfront Park, Columbia, South Carolina** (P)

Urban design, landscape architectural service, preparation of construction documents, and field observation for a 3.5 mile long riverfront park. Work included plazas, pedestrian and bicycle paths, visitors' center, overlook parking, and nature trail. For the Department of Economic Development, City of Columbia, South Carolina.

o **LoPresti Park, Boston, Massachusetts** (P)

Causation study, master planning and landscape architecture services for the complete re-design of an existing harbor front park. The new design includes $2-3 million of phased improvements ranging from a re-constructed pier and sea wall, to active recreation and more formal passive components. For the City of Boston, Public Facilities Department, Massachusetts.

o **Ramsey Park, Boston, Massachusetts** (P)

Planning, design, construction documentation, and field observation for the renovation of a six-acre park. Improvements included new entrance plaza, basketball courts, tennis courts, totlot and spray areas, softball and football fields. For the City of Boston, Parks and Recreation Department, Massachusetts.

o **Master Plan of Western Canal, Lowell, Massachusetts** (P)

Urban design studies for a six-block long Historic Mall/Town Canal located in the center of Lowell. Analysis of land use activities, recreation, open space, vehicular systems, pedestrian systems, and phasing alternatives. For the Department of Planning and Development, City of Lowell, Massachusetts.

o Western Canal Beautification, Lowell, Massachusetts (P)

Site design for construction documents and supervision of a three block canal renovation. Bolstered the image of a declining neighborhood by improving and providing canal access, lighting, safety railings, street realignments, furniture, and plantings. For the Department of Planning and Development, City of Lowell, Massachusetts.

o Payson Park, Belmont, Massachusetts (P)

Revitalization and upgrading of an existing park located on the site of an abandoned elementary school in a residential neighborhood. Services included design for playfield and other recreation areas, and master plan for future park improvements. For the Department of Engineering, Town of Belmont, Massachusetts.

o Walden Greenway Development, Charlotte, North Carolina (P)

Planning and design of a 250 acre greenway within Mecklenburg County residential area. Services included: site capability study, master planning, design guidelines, and Phase One Implementation. Lu & Sears. For the Parks and Recreation Department, Charlotte, North Carolina.

o Doane Street Park, Lowell, Massachusetts (P)

Master plan for a new park within a Public Housing Project Area. Included basketball court, children's play area, tennis court, jogging tracks, new lighting and planting material. For the Department of Planning, City of Lowell, Massachusetts.

o Upper Common Rehabilitation, Fitchburg, Massachusetts (P)

Landscape architecture services for downtown common. Rehabilitation items included pedestrian paths, sculpture fountain, plazas, park furniture, bandstand, sprinkler systems, major trees, and lawn replacement. For the Department of Planning, City of Fitchburg, Massachusetts.

o Gateway Mall and Waterfront Park, St. Louis, Missouri (P)

Prize winning design in international competition for renovation of 25 blocks in the CBD and Government Center area. The design scheme included a linear active park, mixed use plazas, fountains, sitting area, underground parking, grand boulevard, and waterfront park. The competition was sponsored by St. Louis, Inc., St. Louis, Missouri.

o Columbia Riverfront Park Master Plan, Columbia, South Carolina (P)

Master planning of a 350 acre downtown riverfront. Studies included; land use, visual analysis, vehicular systems, pedestrian systems, historic preservation, and archeology. For the City of Columbia, South Carolina.

- **Broad Square Park, Statesville, North Carolina** (P)

  Urban design and landscape architectural services for downtown revitalization project. Included plantings, ornamental paving, lighting, fountains, playgrounds, and display areas in the center of the historic "Olde Town" area. For Downtown Merchants Association, Statesville, North Carolina.

- **East Bridgewater Common, East Bridgewater, Massachusetts** (P)

  Landscape architectural services for town common. Rehabilitation items included monument, pedestrian paths, bandstand, lighting, planting, and irrigation systems. For the Town Common Committee, City of East Bridgewater, Massachusetts.

- **Natick Common, Natick, Massachusetts** (P)

  Urban design and landscape architectural services for historic town common next to Natick Center. Planning and design for pedestrian park, amphitheater, monument plaza, park furniture, lighting,planting and grading. For the Department of Planning, Town of Natick, Massachusetts.

- **Worcester Commons, Worcester, Massachusetts** (IE)

  Landscape architectural services for the renovation of a six-acre town common as part of a C.B.D. economic revitalization project. For the Department of Planning, City of Worcester, Massachusetts. (Work completed while employed as a project designer at Sasaki Associates, Inc.)

- **State Park at Rockwood Hall, Mt. Pleasant, New York** (IE)

  Master plan for a 150-acre park, in lower Westchester County, which included one-mile of frontage along the Hudson River. For the New York State Office of Parks and Recreation, Albany, New York. (Work completed while employed as a landscape architect at Sasaki Associates, Inc.)

- **Southwest Corridor Linear Park, Boston, Massachusetts** (IE)

  Planning and design studies for an extensive linear park adjacent to existing Amtrak Boston-Maine Commuter railroad line. For the Massachusetts Bay Transportation Authority (MBTA), Boston, Massachusetts. (Work completed while employed as a project manager at Sasaki Associates, Inc.)

- **Concord Playing Fields Improvement Program, Concord, Massachusetts** (P)

  Planning, design and preparation of construction documents, and maintenance manual for five playgrounds to serve as prototypes for renovation of other athletic fields in the Town of Concord. Improvements included the refurbishing and regrading of soccer, little league and high school baseball fields. For the Concord Recreation Department, Town of Concord, Massachusetts.

- **Fayetteville Transit Mall, Fayetteville, North Carolina** (C)

  Planning, design, and implementation services for a six block transit mall in the central business district. Established citizen participation program and secured funding mechanisms for implementation. For the City of Fayetteville, North Carolina. Consultant to Parsons Brinckerhoff Quade and Douglas.

- **Logan International Airport, Interior Landscape, Boston, Massachusetts** (P)

  Planning and design of interior planting for Logan Airport's international terminal, Terminal E, as part of airport beautification program. For Massport Authority, Boston, Massachusetts.

- **Lowell Transit Facility, Lowell, Massachusetts** (C)

  Design of bus transfer facility including plaza, ticket booth, and waiting area. For the Lowell Regional Transit Authority, Lowell, Massachusetts.

- **Southwest Corridor Project, Boston, Massachusetts** (IE)

  Project involved the reconstruction of mass transit inter-city and commuter rail lines. For the Massachusetts Bay Transit Authority, Boston, Massachusetts. (Work completed while employed as a project manager at Sasaki Associates, Inc.)

- **Master Landscape Planning and Design for Portion of Route 2, Concord, Massachusetts** (C)

  Landscape planning and design for a portion of service road through historic town, Concord, Massachusetts. For Bayside Engineering, Boston, Massachusetts.

- **Cape Cod Rail Trail Extension, Cape Cod, (Eastham, Wellfleet), Massachusetts** (C)

  Planning, design, and implementation of four mile regional bike paths along abandoned railroad right-of-way between Eastham and Wellfleet, MA. For Keyes Associates, Engineers, Waltham, MA, Department of Public Works and Department of Environmental Management, Commonwealth of Massachusetts, Boston, MA.

- **Parking Garage Plaza, Lowell, Massachusetts** (P)

  Planning and design services for the construction of sidewalks and a gateway plaza at the heart of the existing Urban National Park. The project included brick paving, ornamental iron fencing, flagpoles and site planting to evoke the historic character of the area. For the City of Lowell, Massachusetts.

- **Downtown Linkage, Fayetteville, North Carolina** (P)

  Planning and design for 14 blocks of pedestrian circulation network linking parking to central business district. For the City of Fayetteville, North Carolina.

- **Reconstruction of Washington St., Boston, Massachusetts (Dudley Street to Downtown)** (C)

  Planning and design for streetscape improvements following the removal of elevated rapid transit tracks along approximately 3 miles of major downtown street. For the Massachusetts Bay Transit Authority, Boston, Massachusetts. Consultant to URS Inc., Boston, Mass.

- **Pedestrian System and Parking Improvement Study, Greenville, South Carolina** (P)

  Design and planning of McBee, Washington and West North Streets for pedestrian amenities and parking improvements. For the City of Greenville, South Carolina.

- **Logan International Airport, North Service Area Boston, Massachusetts** (P)

  Planning and design services for visual and acoustical buffering of the airport's North Service Area as part of the airport beautification program. For the Massport Authority, Boston, Massachusetts.

- **MBTA Park & Ride and Station Improvements Program Boston, Massachusetts** (C)

  Planning, design, and construction services for landscape and site improvements at new rapid transit stations and at stations designated for improvement and expansion. For the Massachusetts Bay Transit Authority, Boston, Mass. Consultant to Seelye Stevenson Value and Knecht, Boston, Mass.

- **Greenville Central Transit Transfer Facility Greenville, South Carolina** (C)

  Schematic design for central downtown public transit facility. Project requirements included ambitious aesthetic criteria and public participation for a 25 bus capacity facility with roof deck parking for 150 cars. For the Greenville Transit Authority, Greenville, South Carolina.

- **Gervais Street Gateway, Columbia, South Carolina** (P)

  Planning and design services for improvements to the main gateway/physical spine of the Capital City of South Carolina. Noteworthy design components included elaborate planting of the median and the innovative use of existing plant materials. For the City of Columbia, South Carolina.

INDUSTRIAL / COMMERCIAL PLANNING AND DESIGN

o **Kingston/Bedford Development Plan**
Boston, Massachusetts (C)

Interior landscape design and general landscape architectural services for a 36-story, mixed used commercial building in downtown Boston. The project included interior planting design on five floors of atrium, mall area and exterior design throughout the two block area encompassed by the project. Consultant to Jung/Brannen Associates for the Metropolitan/Columbia Plaza Venture, Developers, Boston, Mass.

o **Itek Corporation, Lexington, Massachusetts** (P)

Master planning for research and manufacturing complex located on a sensitive 50 acre rural site. Consultant to Neil Mitchell and Associates, Architects, for Itek Corporation, Lexington, Massachusetts.

o **Fitchburg Hi-Tech Park,**
Fitchburg, Massachusetts (C)

Master planning and site accommodation studies to establish design vocabulary and design covenants for long range development of 396 acre area as hi-tech park. For Anderson Nichols and Company, Boston, Massachusetts and Fitchburg Economic Redevelopment Agency, Fitchburg, Massachusetts.

o **Greensboro Executive Park,**
Greensboro, North Carolina (JV)

Master planning and design services for converting site of abandoned textile mill to a 75 acre executive office park. For Faison Associates, Charlotte, North Carolina.

o **Polaroid Corporation,**
Norwood, Massachusetts (IE)

Landscape architectural services for a complex of manufacturing buildings on a large rural site. For Charles Maguire, Architects and Engineers, Waltham, Massachusetts. (Work completed while employed as a landscape architect at Sasaki Associates, Inc.)

o **General Electric Plastics Division,**
Pittsfield, Massachusetts (C)

Master planning and landscape architectural services for 30 acre Technology Center site. For General Electric Plastics Business Operation, Pittsfield, Massachusetts. Consultant to United Engineers & Constructors and Jung/Brannen Associates, Boston, Massachusetts.

o **General Electric Computer Center,**
Lynn, Massachusetts (C)

Master planning and landscape architectural services for Computer Center at existing manufacturing plant. For United Engineers and Constructors, Boston, Massachusetts.

o **Tambone Office Building, Burlington, Massachusetts** (P)

Master planning and landscape architecture services for $35 million office complex. Services included site and planting design, including parking for 700 cars and replication of critical aquifer recharge area For Tambone Corporation, Real Estate Developers, Stoneham, Massachusetts.

o **Sheraton Lahore Complex, Karachi, Pakistan** (P)

Master planning and design services for mixed use hotel complex in Karachi, Pakistan's largest city located on the Arabian Sea. Designs created mutually supporting facilities to generate diversified, mixed-use activity including shopping bazaars, offices, theaters, restaurants, luxury apartments, plazas and courtyards. For Phoenix Co., Washington, D.C.

o **Fishing Pier Complex, Portland, Maine** (C)

Site planning and landscape architecture services for "working" fish pier complex. Project was high lighted by vehicular circulation improvements, seaside planting and site improvements which evoked the maritime theme. For Parsons, Brinckerhoff, Quade & Douglas, Boston, Massachusetts.

o **Place Bonaventure, Montreal, Quebec, Canada** (IE)

Landscape architectural services for a rooftop garden on a downtown commercial and hotel complex. For Affleck, Desbarats, Dimakopoulos, Lebensold, Sise, Architects, Montreal, Canada. (Work completed while employed as a landscape architect at Sasaki Associates, Inc.)

o **La Romana Industrial Free Zone La Romana, Dominican Republic** (C)

Master planning and design feasibility studies for a 1,000 hectares landscape as an international industrial free zone developed to create job opportunities for third world country. For South Puerto Rico Sugar Co., a subsidiary of Gulf-Western Corporation. Consultant to Nash-Vigier, Inc.(Planners) and Hayden, Harding and Buchanan (Engineers).

o **Lincoln Laboratories, Lexington, Massachusetts** (C)

Landscape architecture services and planting design at expanding parking facilities within "high tech" laboratory and office complex. For United Engineers and Constructors, Boston, Massachusetts.

o **Mansfield Office Park, Mansfield, Massachusetts** (C)

Master planning for a 75 acre office park. Detailed landscape architectural plan for Phase I Re-zoning and Implementation. For Albert Costa Jr. Architects, Mansfield, Massachusetts.

o Corliss Landing,
Providence, Rhode Island (P)

Landscape architecture services provided for a $10 million waterfront redevelopment project. Design services provided for parking, site planting, site improvements and interior courtyard design for this mixed use retail / condominium project. For Corliss Landing Associates and Marathon Development Corporation, Providence, Rhode Island.

o Locatelli Properties,
Winchester, Massachusetts (P)

Urban design and master planning services for mixed use block in the C.B.D. district. Services included facade and signage recommendation and interior space planning. For Locatelli Properties, Inc., Belmont, Massachusetts.

o Locatelli Properties,
Belmont, Massachusetts (P)

Landscape architecture and urban design services at an existing commercial block in suburban town center. Designs were generated for entry and parking areas, handicap access to buildings and facade and signage components. For Locatelli Properties, Inc., Belmont, Massachusetts.

o General Motors Corporation,
Pontiac, Michigan (IE)

Development of a comprehensive set of planning studies involving the expansion of a large manufacturing facility. For the Argonaut Engineering Department, Architects and Engineers, Pontiac, Michigan. (Work completed while employed as a landscape architect staff at Sasaki Associates, Inc.)

o Manufacturers and Traders Trust Company,
Buffalo, New York (IE)

Landscape architectural services for a downtown bank building. For the Manufacturers & Traders Co., Buffalo, New York. (Work completed while employed as a project manager at Sasaki Associates, Inc.)

o Union Camp Florida Reclamation,
Green Cove Springs, Florida (IE)

Consulting services for the development of a titanium mine on a 7,000-acre site. For the Union Camp Corporation, New Jersey. (Work completed while employed as a project manager/planner/designer at Sasaki Associates, Inc.)

EXPERIENCE AND QUALIFICATIONS

SITE DEVELOPMENT

Parsons Brinckerhoff has extensive experience in the planning and design of site improvements for major private developers and public agencies, including roadways, utilities, and other transportation facilities. We have also provided engineering services required for both planning and design of marine facilities for private waterfront developments and public transportation facilities, above and below grade parking facilities and complicated structural foundations. The following highlights our experience in this field:

Copley Place Development, Boston, Massachusetts

For the Urban Development and Investment Corporation, Parsons Brinckerhoff provided professional design services for the $500-million Copley Place project. The multi-use development complex is situated on a 10-acre site in the historic Back Bay area of Boston. It includes a 750-room deluxe hotel; a 1000-room convention center/hotel; a retail mall featuring specialty stores; restaurants; theaters, an office complex; 100 housing units; and an underground parking facility.

The firm was responsible for the preliminary and final design of all site development work. This included improvements to the street system surrounding the complex, utility relocations, and civil and structural design of the relocated turnpike ramps, as well as access roadways to the parking garages and main entrances to the hotels.

In addition, the firm performed traffic analyses, conducted field surveys and developed parking garage profiles. Parsons Brinckerhoff was responsible for developing traffic maintenance plans during construction for both turnpike and city street traffic and provided resident engineering services during construction. The firm also performed preliminary investigations of alternative ventilation systems for the covered portion of the turnpike ramps and the railroad station under the complex, coordinated with public agencies during the project approvals process and designed foundations for portions of the development.

Prudential Center, Boston, Massachusetts

Parsons Brinckerhoff developed conceptual design for the infrastructure modifications required to accommodate the proposed Prudential Center Master Plan. Utility distribution systems were developed within the site to support six new buildings and to maintain and enhance service to eight other existing buildings. This work includes revisions to the local street network, public and private utility distribution systems, Massachusetts Turnpike Authority facilities, and MBTA structures. New geometrics and revisions were made to local streets including Boylston Street and Huntington Avenue, along with reconstructed signalized intersections. The project included abandonment of a 30" combined sewer siphon and replacement with 1000 LF of separated 36" storm drain and 24" sanitary sewer.

Parsons Brinckerhoff Quade & Douglas, Inc.

South Cove Subway
Boston, Massachusetts

- $20 million subway tunnel and underground station
- 1,500 ft. of cut-and-cover subway
- 800 ft. of slurry walls
- Flexibility provisions for development on top of subway structure

SERVICES

- Complete design and construction phase services

CLIENT:

- Massachusetts Bay Transportation Authority (MBTA)

Rowes Wharf
Development Project
Boston, Massachusetts

- $300 million development
- Underground 5-level parking
- Value engineering for underground construction and waterfront structures
- Slurry walls and caissons
- Site development/major utilities
- Agency coordination

SERVICES:

- Site and value engineering, permits

CLIENTS:

- The Beacon Companies

Parsons Brinckerhoff

75 State Street Development, Boston, Massachusetts

For the Beacon Companies Parsons Brinckerhoff provided engineering services for site preparation for this $200-million office development in downtown Boston. This work included major utility relocations including a 1,000-foot-long, 54-inch storm drain for the Boston Water and Sewer Commission, traffic maintenance plans, coordination with state and local agencies, obtaining environmental permits, demolition plans for existing multi-story buildings, design of roadway reconstruction and construction resident engineering services.

Post Office Square Garage, Boston, Massachusetts

Parsons Brinckerhoff is managing designer for a seven-level $80 million underground parking facility on a 1.7 acre site in the heart of downtown Boston's financial district. In addition to overall design team management and design coordination, Parsons Brinckerhoff provided civil/site development work for both the garage and it's street level park, traffic and geotechnical engineering, contractibility review, construction cost estimating, and construction phase services. The 1,400-space garage built using the "top down" construction method topped with an urban park is presently under construction and is scheduled to open in 1991. The unique top down construction method used on several other Boston projects involves initial construction of a cast-in-place concrete diaphragm slurry wall around the perimeter which serves as the permanent foundation wall and also provides lateral support during excavation. Interior columns are supported on Load Bearing Elements (LBE's) which are individual slurry wall segments. The technique eliminates tiebacks or internal bracing and on this busy, congested downtown location, it allows utilization of the top of the site as a staging platform during the construction of the project.

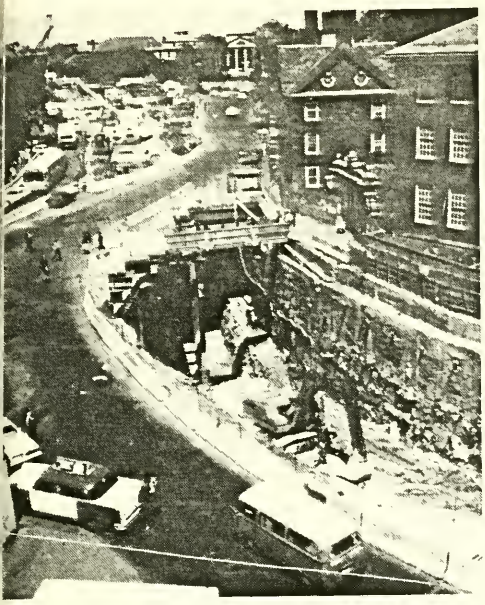
Rowes Wharf Development, Boston, Massachusetts

Parsons Brinckerhoff provided engineering services to the developer for the design of site improvements required to accommodate the Rowes Wharf Development on Atlantic Avenue. This work included design of a section of the new East Side Interceptor, modifications to the local street network, construction management planning, private and public utility distribution systems and the development of utility service systems for the project. For the contractor we provided structural, geotechnical and marine engineering services for modifications in facility design and construction procedures.

Burroughs Wharf, Boston, Massachusetts

Parsons Brinckerhoff provided design services for two piers to support new condominiums on the waterfront in Boston's north end section. As part of the design, it was required that we inspect and protect Boston's two vehicular harbor tunnels. The south wharf structural design was particularly challenging as it required spanning the Massachusetts Turnpike's Sumner Tunnel. This involved location of pile bents each side of the tunnel and design of a 75-foot long, 7-foot deep steel girder to span over the tunnel and support the condominium structures above. Piles installed along the tunnel will be preaugered to the tunnel level before driving to limit vibrations that might affect the tunnel.

arsons Brinckerhoff Quade & Douglas, Inc.



Harvard Square Station
Cambridge, Massachusetts

- $70 million multi-level underground station
- 1,800 ft. of tied-back slurry walls
- 1,000 ft. of sheeted and braced excavation
- First application of slurry walls as permanent structure in transportation facility
- Research to advance state-of-the-art slurry wall design and construction

SERVICES:

- Civil/Structural Design, Mechanical and Electrical
- Geotechnical Engineering
- Extensive geotechnical studies including Integral Sampling Method

CLIENT:

- Massachusetts Bay Transportation Authority (MBTA)

Long Wharf Ventilation Shaft
Blue Line Subway
Boston, Massachusetts

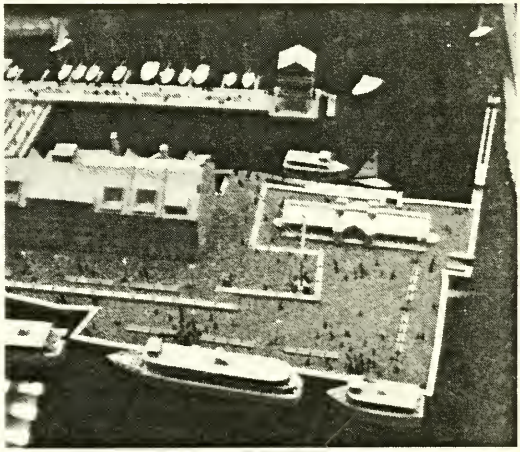
- $7 million underground facility
- 80-foot deep, ventilation shaft
- 100-foot deep, slurry walls
- Provision for urban park above and around structure
- Protection of adjacent historic structures

SERVICES:

- Complete design and construction phase services, mechanical ventilation
- Installation and monitoring of ground movement instrumentation

CLIENT:

- Massachusetts Bay Transportation Authority (MBTA)



Parsons Brinckerhoff

Steamline Relocation - New Northern Avenue Bridge, Boston, Massachusetts

For Boston Thermal Energy Corporation, Parsons Brinckerhoff was responsible for the preliminary design of a new steam line crossing at the Relocated Northern Avenue Bridge over the Fort Point Channel. The project included developing horizontal and vertical geometrics for a 12-inch steam line and a 6-inch condensate line, determining expansion joints details and thrust blocks requirements, and an analysis of thermal forces at anchors and thrust blocks.

Fan Pier Development, Boston, Massachusetts

For HBC Associates, Parsons Brinckerhoff developed conceptual design, cost estimating and constructibility review of roadways, utilities, bridges and marine structures for this major $600-million residential, hotel, office and underground parking garage on the Boston waterfront. During the preliminary design and approvals phase we provided engineering services for traffic impact studies, interface with public and private agencies and developed alternatives for an integral canal system and marina on the 18.5-acre site.

Pier 4 Development, Boston, Massachusetts

For the Boston Mariner Co., Parsons Brinckerhoff, as a member of a multi-disciplinary team, provided civil/site, marine and structural engineering services for a 16.4-acre waterfront site in Boston. The $400-million Pier 4 Development was planned to incorporate residential and office space, underground parking, harborwalk, marina, breakwater, and entry pool. Civil/site development work included plans for modification to public and private streets and sidewalks, construction of a vertical end wall for the canal at the interface with the Fan Pier Development, removal of the sunken hull of the Peter Stuyvesant, construction of a breakwater, marina dredging, restoration of rip-rap dikes, and restoration of the seawall around Pier 4.

Boston Naval Shipyard, Charlestown, Massachusetts

For the City of Boston, Parsons Brinckerhoff provided planning, field survey, design and construction inspection for $3 million of redevelopment of the Boston Naval Shipyard, including several miles of street reconstruction, utility relocation, new drainage system, and landscaping. Existing utilities within the entire shipyard were evaluated for condition and capacity to serve the planned redevelopment of the shipyard. New water, sewer and storm drains were designed and coordination was provided for the installation of public utilities including gas, telephone, and electric. The roadway network was redesigned including geometrics, sidewalks, lighting and adjacent landscaped areas.

Boston Crossing Project, Boston, Massachusetts

Parsons Brinckerhoff was retained by the Campeau Corporation to provide professional engineering services to their proposed retail complex in downtown Boston. Services included utility relocations, interface with the Massachusetts Bay Transportation Authority's adjacent Orange Line, traffic maintenance and protection plans to be utilized during construction. In addition, the review of the multi-level underground parking garage included a space utilization analysis, a traffic ingress/egress analysis, a slurry wall location study, and the analysis of traffic and structural interface with the adjacent parking garage situated under LaFayette Place.

Parsons Brinckerhoff Quade & Douglas, Inc.

South Braintree Parking Garage
Braintree, Massachusetts

- 1,200-car four level parking facility
- Express ramps minimize traffic impacts
- Internal circulation aids users
- Award for Design Excellence

SERVICES:

- Complete design and construction phase services

CLIENT:

- Massachusetts Bay Transportation Authority (MBTA)

Copley Place Development Project
Boston, Massachusetts

- $500 million multi-use development complex site developer
- Garage access ramps
- Alternative design for decking over Turnpike
- Flexible provisions for surface landscaping
- Major utility relocation
- Agency Coordination
- Ventilation

SERVICES:

- Preliminary and final site design, and resident engineering services

CLIENT:

- Urban Investment and Development Company

Parsons Brinckerhoff

MORRIS S. LEVY

Senior Vice President

Project Assignment
Principal-in-Charge

Years of Experience
25

Education
M.S., Civil Engineering, Columbia University, 1964; B.S., Civil Engineering, Khartoum University, 1951

Professional Affiliations
American Society of Civil Engineers, National Society of Professional Engineers

Professional Registrations
Massachusetts, New Jersey, New York, and Connecticut

Mr. Levy currently directs all planning and design activities in the firm's Boston office. He has extensive experience in many facets of engineering, including highways, bridges, rapid transit projects, port and marine facilities, and building structures. Among the recent major projects he directed are the following:

- North Station Reconstruction/Green Line LRT Relocation/Underground Garage, Boston, Massachusetts: Principal-in Charge for the design and engineering services for the relocation of the elevated Green Line beneath a new Boston Garden and development of an intermodal transfer between the Orange Line, Green Line and Commuter Rail. A new multi-level underground parking garage will be built beneath the new Boston Garden.
- Replacement of the Beverly/Salem Railroad Bridge, Massachusetts: Principal-in-Charge for the design and construction of a 900-foot long prestressed concrete railroad trestle and rehabilitation of a 100-year old swing span. The work was performed on an accelerated basis after the original timber trestle was destroyed by fire, disrupting commuter rail service for thousands of daily riders. The project also included improvements to five stations, repair or replacement of fifteen bridges and general right-of-way upgrading along the two lines affected by the shutdown. Train service was restored on schedule, on year after the fire.
- Harvard Square Station, Cambridge, Massachusetts: Project Manager for the design of the Harvard Square MBTA station, a complex underground transit and bus station incorporating permanent slurry walls.
- Lechmere Maintenance Facilities Green Line Light Rail System, Boston, Massachusetts: planning and design services for rail maintenance facility for the Green Line consisting of light rail vehicle repair house, storage area and test track.
- Connecticut Emergency Bridge Program: complete design services for the rehabilitation and/or replacement of 15 bridges including inspection, survey, geotechnics, hydraulics and contract documents.
- Connecticut Bridge Rehabilitation Program: in-depth bridge inspection and evaluation for several bridge projects including the preparation of bridge rehabilitation study reports and the design and development of contract drawings and specifications.
- I-95 Baldwin Bridge, Old Lyme - Old Saybrook, Connecticut: structure type study and preliminary design for the replacement of the Baldwin Bridge across the Connecticut River.

- I-495 Foxboro to Bridgewater, Massachusetts: extension of I-495 from Foxboro to Bridgewater, including the relocation of 2.7 miles of Route 140. The 14.3-mile six-lane facility included six interchanges and 27 bridges.
- Route I-93, 128 and 3 Interchange, Braintree, Massachusetts: design of the revised high speed interchange just south of Boston. The $25 million reconstructed interchange included roadway widening of Washington, Central, and Church Streets, and Independence Avenue, 12 bridges, two culverts, a 500-foot retaining wall, and extensive traffic maintenance and construction phasing program.
- Copley Place Project, Boston, Massachusetts: all engineering design and construction phase services for the site development of the $400 million mixed-use development in Boston.
- Prudential Center, Boston, Massachusetts: design of infrastructure modifications for the Prudential Center Master Plan including revisions to local streets, public and private utilities.
- 75 State Street Development, Boston, Massachusetts: engineering services for the design of all site preparation and improvement work for the 75 State Street Project.
- Rowes Wharf, Boston, Massachusetts: design review and value engineering services for the waterside and landside structures including wharf structures, steel H-piles and steel sheet pile bulkhead, drilled piers, and slurry walls.
- Industrial and Marine Facilities, New England: Principal-in-Charge for a variety of industrial and marine facilities at Quonset Point, Rhode Island and Groton, Connecticut. Projects included the design of a foundation system for the heavy lift jack-up barge terminals used to transport submarine hull sections; stabilization of a 2,000-foot seawall; reconstruction of Building 16 and rehabilitation of Building 488.
- Long Wharf Rehabilitation, Boston, Massachusetts: as part of a new ventilation shaft for the MBTA's Blue Line tunnel, provided inspection and rehabilitation of a historic granite seawall at Long Wharf.
- Pier 4 Development, Boston, Massachusetts: engineering design services for the site development of a 9-acre multi-use private development on the Boston waterfront. Services include waterside and landside structures, utilities and roadways.
- Fan Pier Development, Boston, Massachusetts: engineering design services for the site development of a 17-acre multi-use private development fronting Boston Harbor and the Fort Point Channel. Services include waterfront structures, transportation, utilities, bridges and roadways.
- Marginal Street Reconstruction, Chelsea, Massachusetts: design for one-mile-long reconstruction of Marginal Street, including full-depth pavement, drainage, traffic signals, sidewalks, street furniture, environmental permits, and signing Project included removing and renovating a portion of a railroad within the roadway right-of-way and resident engineering during construction.

ANDREW B. BOYD

Senior Civil Engineer

Project Assignment
Project Manager

Years of Experience
18

Education
B.S., Civil Engineering, Northeastern University, 1974

Professional Affiliations
American Society of Civil Engineers, National Society of Professional Engineers, Institute of Transportation Engineer

Professional Registrations
Massachusetts

Relevant Experience

- Copley Place Project, Boston, Massachusetts: responsible for the site/civil engineering improvements for the $400 million development including street, utilities, lighting, and structures as well as owner, contractor, architect, and agency coordination.
- 75 State Street Development, Boston, Massachusetts: site/civil engineering of all infrastructure modifications and site improvements from initiation of environmental review process through production of contract documents and construction.
- Rowes Wharf Development, Boston, Massachusetts: site/civil engineering for major infrastructure modifications including streets, utilities, East Side Interceptor, and coordination with the developer, architect, and all public agencies.
- Prudential Center, Boston, Massachusetts: conceptual site/civil engineering of all infrastructure modifications required to accommodate the proposed Prudential Center Master Plan including streets, structures, and utilities as well as coordination with project architects, other consultants, owner, and local agencies.
- Fan Pier and Pier 4 Developments, Boston, Massachusetts: conceptual site/civil engineering of all infrastructure modifications required to accommodate these two major projects including marine facilities, utilities, roadways, walkways and site structures.
- Parking Garage and Street Improvements, Waltham, Massachusetts: preparation of contract documents for the reconstruction of local streets in the central business district of Waltham.
- Parcel 18, Southwest Corridor, Boston, Massachusetts: conceptual analysis of impacts on the existing infrastructure system for the future development of this site.
- Marginal Street Reconstruction, Chelsea, Massachusetts: design for one-mile-long reconstruction of Marginal Street, including full-depth pavement, drainage, traffic signals, sidewalks, street furniture, environmental permits, signing.
- I-495 Foxboro to Bridgewater, Massachusetts: highway design for the extension of I-495 from Foxboro to Bridgewater, including the relocation of 2.7 miles of Route 140. The 14.3-miles, six-lane facility included six interchanges and 27 bridges.

- I-93, Route 128, and Route 3 Interchange, Braintree, Massachusetts: highway design of the revised high speed interchange just south of Boston. This $25 million interchange reconstruction project included roadway widening of Washington, Central, and Church Streets, and Independence Avenue; 12 bridges; two culverts; a 500-foot retaining wall; and an extensive traffic maintenance and construction phasing program.
- Speen Street/Route 9 Interchange, Framingham/Natick, Massachusetts: preliminary and final design of the roadway, traffic, and utility elements of this major interchange.

RAYMOND K. ORO

Senior Civil Engineer

Project Assignment
Roadways/Utilities

Years of Experience
17

Education
Franklin Institute of Boston, A.C.E., 1969

Relevant Experience

- 75 State Street Development: Site/civil engineering of all infrastructure modifications and site improvements from initiation of environmental review process through production of contract documents.
- North Station Transportation Improvement Project, Boston, Massachusetts: Developed civil and track elements for the relocation of the Authority's Green Line light rail transit in the North Station area of Boston. Responsible for the relocation of major utilities and coordination with municipal and city agencies.
- Marginal Street Reconstruction, Chelsea, Massachusetts: Project civil engineer for the design and construction services for the one-mile-long reconstruction of Marginal Street, including full-depth roadway reconstruction, drainage, traffic signals, sidewalks, street furniture, environmental permits, and signing. Project included removing a portion of a railroad sidings within the roadway right-of-way and resident engineering during construction.
- Charlestown Naval Shipyard, Boston, Massachusetts: Project civil engineer for the design of streets, sidewalks, and total utility reconstruction. Prepared all Public Improvement Plans (P.I.C.) and construction pdlans for drafting. Prepared technical specifications and construction estimates.
- Reconstruction of Morrisey Boulevard, Boston, Massachusetts: Staff civil engineer for the reconstruction of Morrisey Boulevard at the University of Massachusetts Campus entrance. Responsible for geometrics, utility relocation, drainage, and preparation of contract documents for 2 miles of urban roadway.
- Crystal Mall, Waterford, Connecticut: Design for over 4 miles of roadway, associated utilities and drainage.
- Brightman Street Bridge Replacement, Massachusetts: Prepared highway conceptual design plans and profiles for an approach roadway and interchange between Route 79 in Fall River and Route 6 in Somerset associated with the replacement of a movable bridge over the Taunton River.
- Red Line Extension Quincy - Braintree, Massachusetts: Staff civil engineer for the 5-mile rapid transit extension. Responsible for geometric design, trackwork, drainage, cost estimates and construction staging.
- I-495 Foxboro to Bridgewater, Massachusetts: Highway design for the extension of I-495 from Foxboro to Bridgewater, including the relocation of 2.7 miles of Route 140. The 14.3-mile, six-lane facility included six interchanges and 27 bridges.
- Baldwin Bridge Replacement I-95, Connecticut: Responsible for the preliminary highway design for approaches to this major crossing of the Connecticut River between Old Lyme and Old Saybrook. Prepared interchange design including geometrics for mail line, and local intersecting roadways.

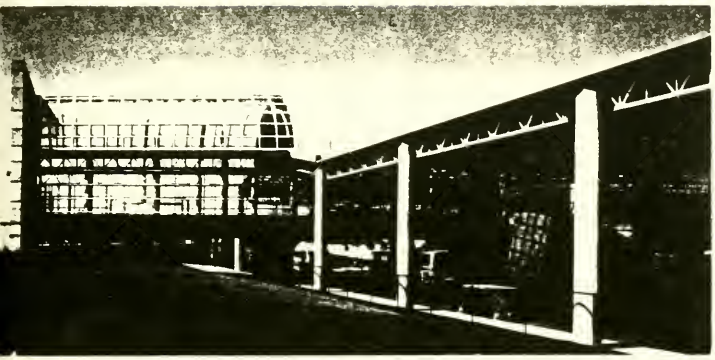
RUGGLES STREET STATION
BOSTON, MASSACHUSETTS

The new Ruggles Street Station is a multi-modal facility which accommodates buses, the Orange Line rapid transit trains and a commuter rail stop.

The station, marked by its distinctive barrel vault, serves as a new front door to Northeastern University and is a vital link to the adjacent community.

ull and Lee, Inc.
chitects and Planners

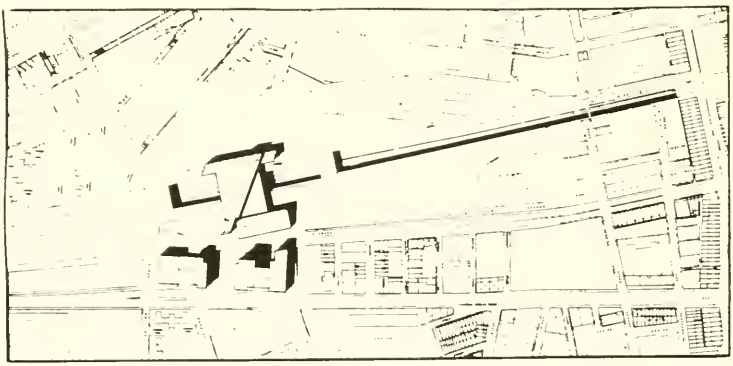
Chauncy Street, Suite 1100
oston, MA 02111
7 426 0406
X 617 426 2835



PARCEL 18
Boston, Massachusetts

This 850 000 square foot mixed-use development on a six-acre site adjacent to Ruggles Street Station is Boston's first link age project. Its landscaped central plaza on axis with the principal station facade is conceived as the focal point of the project and hub of pedestrian and vehicular activity. Pedestrian-oriented activities along Columbus Avenue and Tremont Street will make these streets attractive places for shopping and strolling.
Departing from the current scale and intensity of surrounding land uses, the structures at Parcel 18 have been designed to provide a lively destination marking the revitalization of this section of the city.

Stull and Lee, Inc
Architects and Planners
38 Chauncy Street Suite 1100
Boston, MA 02111
617 426 0406
FAX 617 426 2835



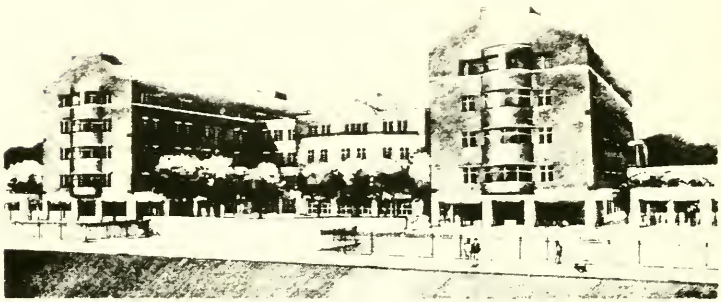
ROXBURY COMMUNITY COLLEGE
BOSTON, MASSACHUSETTS

The college is the result of a long planning process in which Stull and Lee played a substantive role. Site analysis, master planning, facility programming and ultimately design.

RCC serves a student body of 1500 and is composed of a 4 building complex arranged in a mall setting. The major buildings are the Student Center, the Academic Core, Media Arts and Administration.

Stull and Lee, Inc.
Architects and Planners

One Beacon Street, Suite 1100
Boston, MA 02108
617 426 0406
FAX 617 426 2835



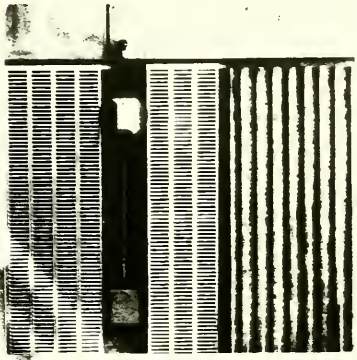
SOUTHWEST CORRIDOR PROJECT
BOSTON, MASSACHUSETTS

The Southwest [illegible] an [illegible] transportation project through the [illegible] of Boston.

As part of a multi-disciplinary team Stull and Lee designed and coordinated the urban design aspects of this $500 million project. This included development of system-wide open space and land use concepts, design and development of system-wide architectural and urban design components, schematic design of eight new stations and community liaison activities. Additionally, Stull and Lee designed and detailed the full range of standard operational components, coordinating their design with engineering aspects of the project and supervising their construction.

Stull and Lee, Inc
Architects and Planners

38 Chauncy Street Suite 1100
Boston MA 02111
617 426 0406
FAX 617 426 2835



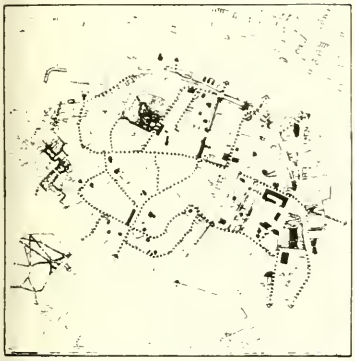
HIGHLAND PARK PLAN
BOSTON, MASSACHUSETTS

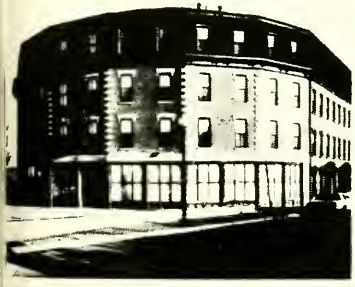
Highland Park is a striking neighborhood of dramatic topography and historic architecture but population shifts and economic disinvestment threatened this once splendid area.

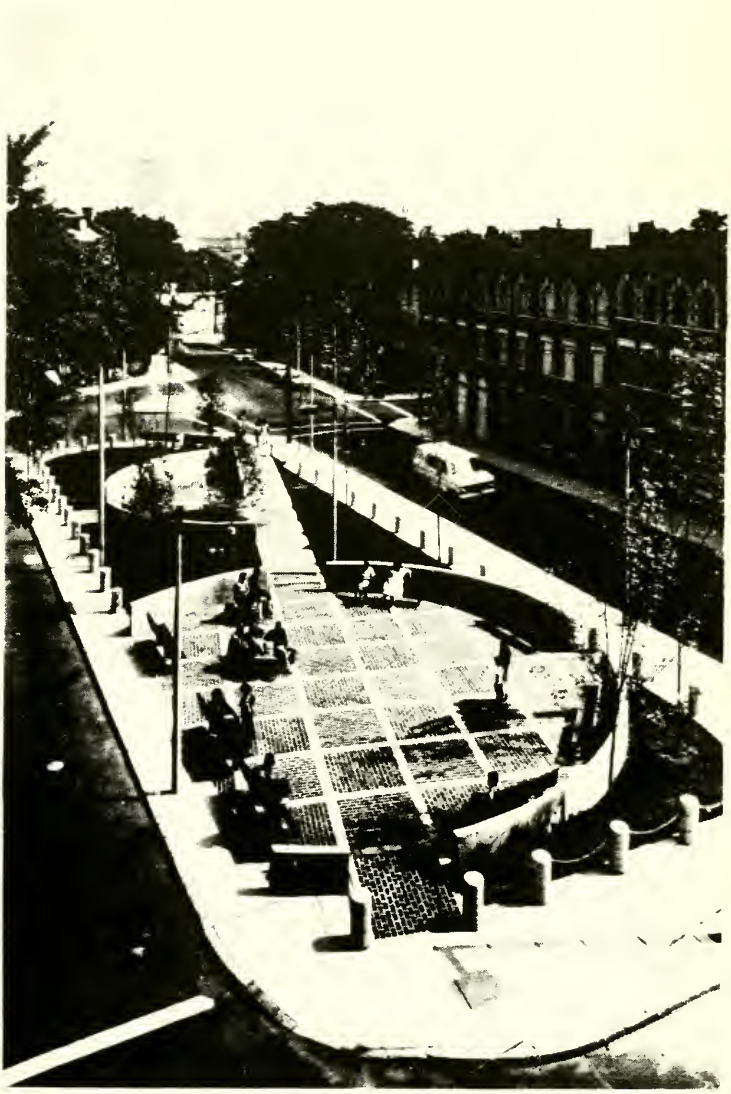
Stull and Lee, Inc. prepared a master plan which proposed new and renovated housing, shopping facilities and parks. A key component of the plan was the siting of the recently completed Roxbury Community College. Today, Highland Park is one of Boston's most desirable neighborhoods.

Stull and Lee, Inc.
Architects and Planners

38 Chauncy Street Suite 1100
Boston, MA 02111
617 426 0406
FAX 617 426 2835







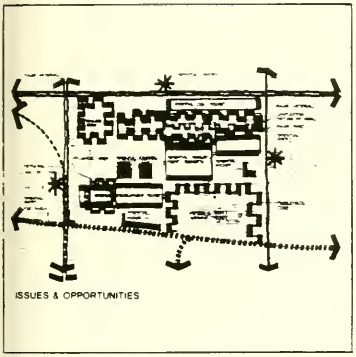
POINCIANA INDUSTRIAL PARK
MIAMI, FLORIDA

This proposed industrial park is the key element in the revitalization of the neighborhood most devastated by the Miami riots in 1980. The plan builds upon existing viable industries and through infrastructure improvements and reparcellization provides for expansion and new development.

The goal of the plan is to generate employment, restore investor confidence and galvanize public and private sector commitment to the future of the area.

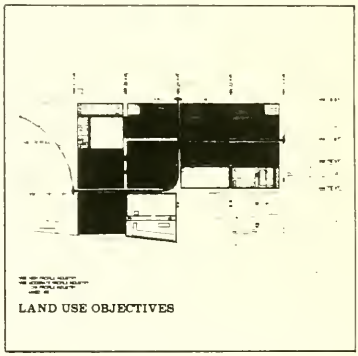
Stull and Lee, Inc.
Architects and Planners

38 Chauncy Street Suite 1100
Boston MA 02111
617 426 0406
FAX 617 426 2835

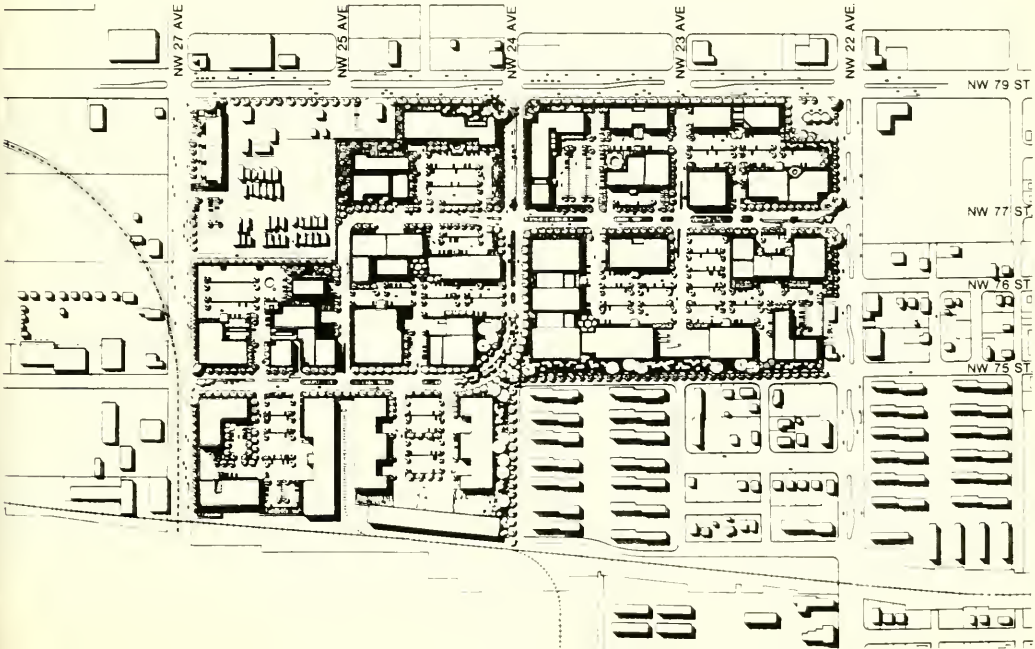


ISSUES & OPPORTUNITIES

MARKETING STRATEGY



LAND USE OBJECTIVES



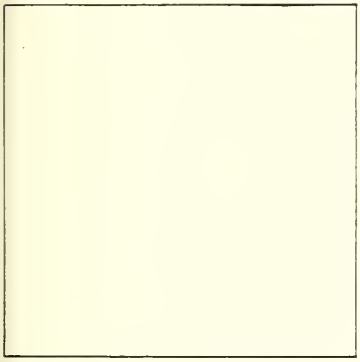
NEWMARKET INDUSTRIAL DISTRICT

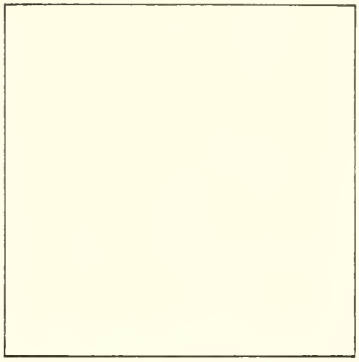
BOSTON, MASSACHUSETTS

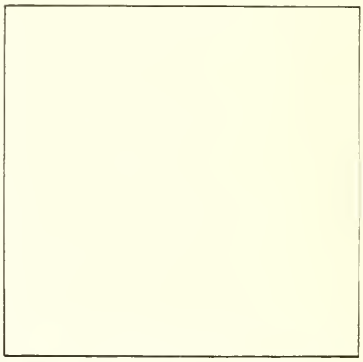
The Newmarket area is one of Boston's oldest and most concentrated industrial districts. Stull and Lee, Inc. prepared a master plan with the objective of returning to prominence this aging section of the City. Through strategic public interventions, the plan seeks to create an attractive light manufacturing district as a prototype for urban industrial redevelopment.

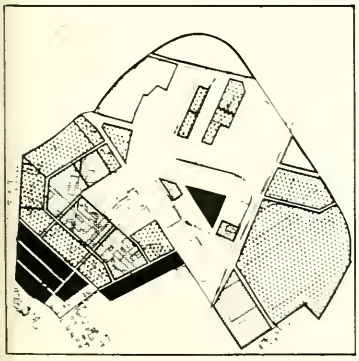
Stull and Lee, Inc.
Architects and Planners

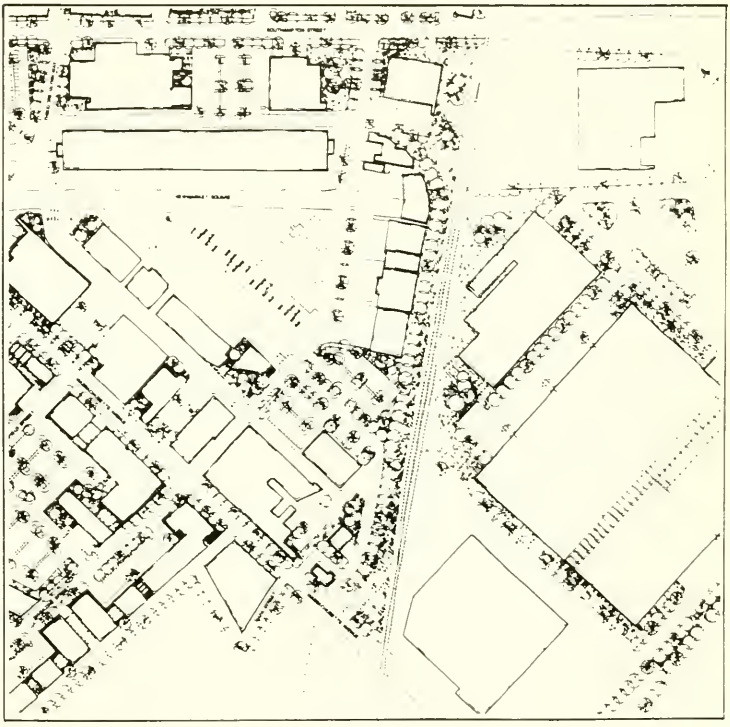
38 Chauncy Street, Suite 1100
Boston, MA 02111
617 426 0406
FAX 617 426 2835











SL

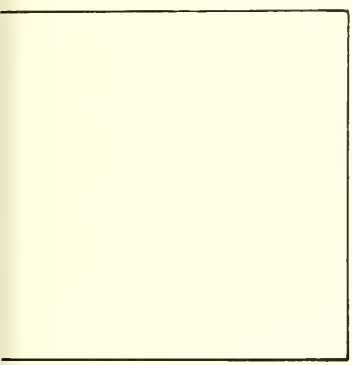
JACKSON WARD VISION 2000

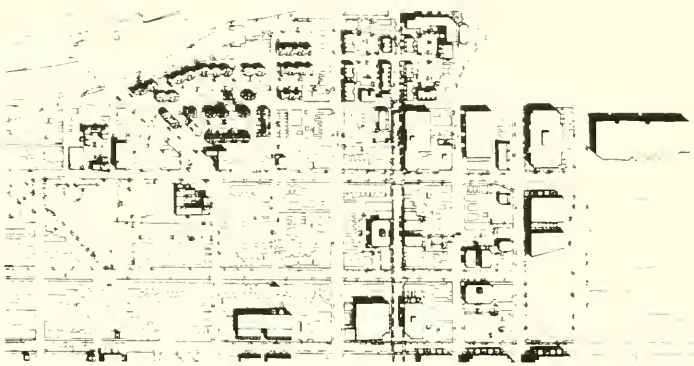
RICHMOND, VIRGINIA

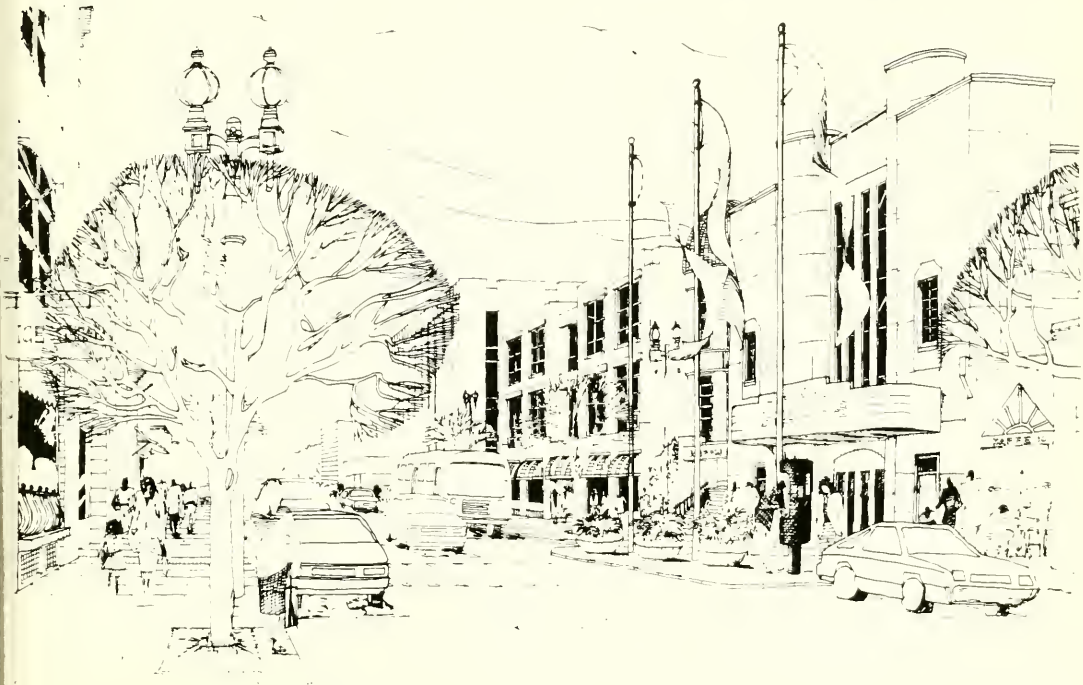
Stull and Lee, Inc. were the urban design consultants for Jackson Ward Vision 2000. This project is a collaboration between Richmond Renaissance, a public private partnership of downtown business persons, civic leaders and city officials. The plan for the revitalization of this historic section of downtown Richmond was conceived through a series of workshops with a team of nationally prominent real estate developers.

Stull and Lee, Inc.
Architects and Planners

38 Chauncy Street, Suite 1100
Boston, MA 02111
617 426 0406
FAX 617 426 2835





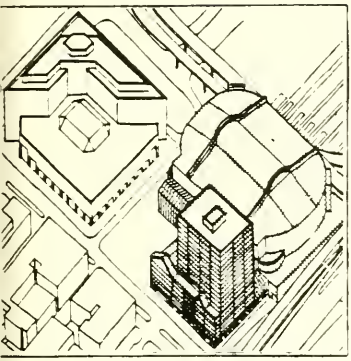


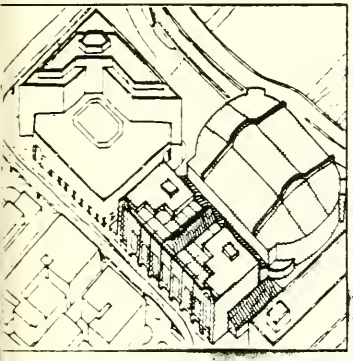
BOSTON ARENA FEASIBILITY STUDY

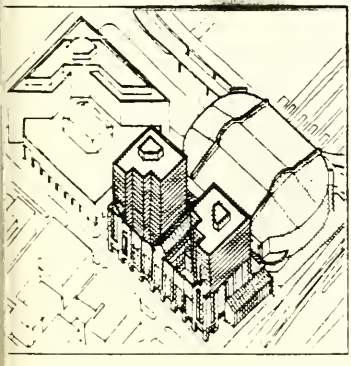
BOSTON, MASSACHUSETTS

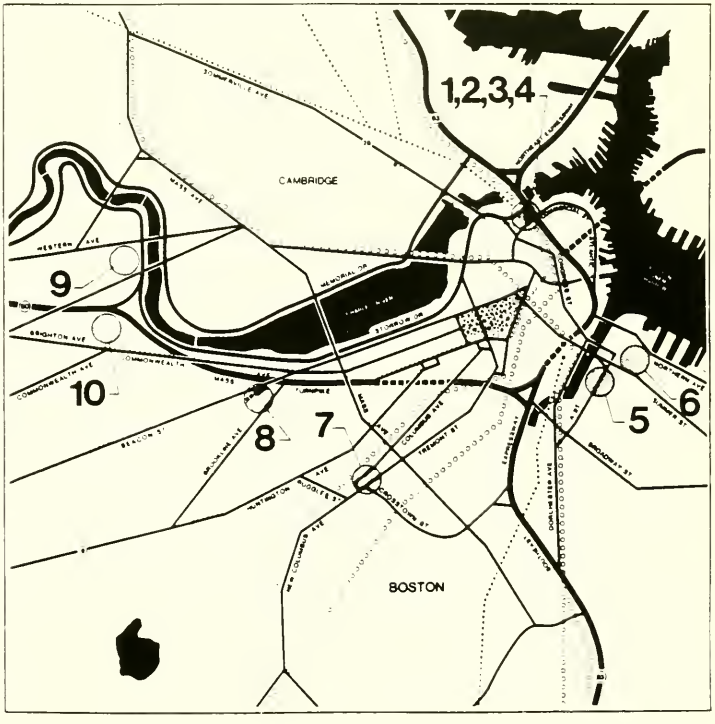
This study commissioned by the Massachusetts Convention Center Authority examined the feasibility of developing a new multi-purpose arena facility in the Boston area. In our role as urban design consultants S + L analyzed potential sites in terms of land use compatibility, circulation and parking capacity. Design guidelines and alternative development scenarios were generated for key sites.

Stull and Lee, Inc.
Architects and Planners
118 Chauncy Street Suite 1100
Boston, MA 02111
617 426 0406
FAX 617 426 2835









SL

M. DAVID LEE, AIA

Vice President
Architect/Urban Designer

EDUCATION

University of Illinois
Bachelor of Architecture, 1967

Harvard Graduate School of Design
Master of Architecture, Urban Design, 1971

REGISTRATION

Massachusetts 1972

PROFESSIONAL EXPERIENCE

As Vice-President of Stull and Lee, Incorporated, Mr. Lee is involved in a broad range of planning, urban design and architectural projects. He served as Principal-in-Charge of urban design for Boston's award winning Southwest Corridor Transit Project, for the Kaehler Primary Health Care Center for the U.S. Coast Guard (Falmouth, Massachusetts), the Chad Brown/Admiral Terrace master plan and housing renovations (Providence, Rhode Island), and the Poinciana Industrial Park plan (Miami, Florida).

Current projects under Mr. Lee's direction include Biscayne View Apartments, a 438 unit mixed-use development project in downtown Miami, the Opera Place dormitory at Northeastern University and the master plan for an 850,000 square foot mixed use office and retail complex in Boston.

Mr. Lee is frequently engaged for his urban design expertise. He has consulted with among others, the cities of Montreal and Toronto, Canada; Washington, D.C.; Chicago, Illinois; Kansas City, Missouri; Richmond, Virginia and Los Angeles, California.

TEACHING EXPERIENCE

Adjunct Professor, Rhode Island School of Design, 1972
Assistant Professor, MIT Department of Architecture and Planning, 1974-1983
Consulting Critic, Harvard Graduate school of Design, Urban Design Program, 1980
Visiting Design Critic, Harvard Graduate School of Design, 1988
Visiting Lecturer and Studio Juror: Columbia, Harvard, Yale, Pennsylvania, MIT, Texas Southern University, Hampton Institute, the University of Rhode Island, Southern University and the University of Havana.

AWARDS

General Assembly Scholarship, University of Illinois
Harvard Graduate School of Design Scholarship
First Jose Luis Sert Fellow, Harvard University
John Hay Whitney Fellow, Whitney Foundation, N.Y.
Outstanding Young Men of America
Who's Who in the East

MEMBERSHIPS, BOARDS AND CONSULTING

The American Institute of Architects
The Boston Society of Architects
The Metropolitan Area Planning Council, Boston, MA
The Institute for Urban Design, N.Y.
The Design Arts Overview Panel, National Endowment for the Arts, Washington, DC
Faculty, The Mayor's Institute on City Design/National Endowment for the Arts
Invited Speaker and Team Leader, Designs on Montreal,
International Design Conference, 1988
Charrette Team, Toronto Waterfront, 1989
The First Presidential Design Awards Jury, Washington, D.C., 1984
Board of Directors, The Boston Society of Architects
Board of Directors, Boston Architectural Center
Advisory Board and Juror, Boston Visions National Urban Design Competition.
Board of Directors, The Roxbury Comprenensive Community Health Center, Inc.
Board of Directors, Boston Chamber of Commerce
Board of Directors, Boys' and Girls' Clubs of Boston
Board of Directors, Massachusetts Convention Center Authority
Board of Directors, Friends of the Boston Common

SL

ELMO ORTIZ

Associate
Architect/Urban Designer

EDUCATION

University of Puerto Rico
Bachelor in Environmental Design, 1972
Master of Architecture, 1974

Massachusetts Institute of Technology
Master of City Planning, 1979

REGISTRATION

Massachusetts, 1985

PROFESSIONAL EXPERIENCE

Mr. Ortiz has served as Senior Architectural Designer for the Roxbury Community College in Boston and was Project Architect on the $30 million Biscayne Bay Mixed Use Development Project in Miami. Additionally, he served as an Architectural Designer on the Southwest Corridor Transportation Project and the New York City Transit Authority Station Modernization Project.

Mr. Ortiz is currently in charge of the design of a 700 student dormitory for Northeastern University in Boston and the master planning and Phase I development for the Ruggles Center project at Parcel 18, Boston, a mixed-use complex of offices, retail and hotel functions.

Other previous work include public housing modernization projects in Providence, RI and urban planning projects for Bath, Maine. Mr. Ortiz also served as an Urban Design Consultant to the Coalition for Better Acre in Lowell, MA.

AWARDS

Institute of Architects Design Awards, Puerto Rico, 1974

MEMBERSHIPS

Board of Directors, Hispanic Alliance, Roxbury, MA, 1977-1987

Member, Nuestra Comunidad Development Corporation, Dorchester, MA, 1981-1987

SL

THOMAS G. BEDDALL

Architect

REGISTRATION

Massachusetts - 1989

EDUCATION

Christ's College, Cambridge University
B.A. (History of Architecture), 1976

Graduate School of Design, Harvard University
Master of Architecture, 1980

PROFESSIONAL EXPERIENCE

Mr. Beddall is currently serving as Job Captain for the master planning and site design of Harbor Gateway, a light-industrial park on the South Boston waterfront, and Ruggles Center, a five acre development in Boston planned to include three office buildings, a hotel, and a parking garage. He is also Job Captain for the design of a twelve story office building which will be built in the first phase of the Ruggles Center development.

Prior to joining Stull and Lee, Mr. Beddall was involved initially in architectural and urban design work at Sert, Jackson and Associates, including the design of a residential district of Jubail Industrial City, Saudi Arabia; master planning for the Saudi Arabian National Center for Science and Technology; and a competition proposal for a new university in Arbil, Iraq. Subsequent work at Brown Daltas and Associates included detail design for the Headquarters Building of the Saudi Arabian National Center for Science and Technology.

As Project Architect at TAMS Consultants, Mr. Beddall was responsible for contract document production and construction supervision for storefront and office interior projects in Boston, and renovations to an apartment complex in Nashua, New Hampshire. Further work as Project Architect at August Associates involved design and construction supervision for several fitness centers in the Boston area, and the design of renovations to an existing building at the Dimock Community Social Services campus in Boston.

AWARDS

Warner-Lambert National Merit Scholarship

SL

ll and Lee, Inc
chitects and Planners

Chauncy Street Suite 1100
ston, MA 02111
7 426 0406
x 617 426 2835

STULL AND LEE CLIENTS

Bank of Boston
The Beacon Companies
Boston Department of Public Facilities
Boston Housing Authority
Boston Redevelopment Authority
Cambridge Street Community Development Corporation
Campeau Massachusetts
The Chiofaro Company
Cruz Development Corporation
Department of the Army, Corp of Engineers
Development Corporation of America
Digital Equipment Corporation
Charles R. Drew Postgraduate Medical School, Los Angeles
Economic Development and Industrial Commission of Boston
Florida A&M University
Greater Boston Chamber of Commerce
Greater Boston Development Corporation
Harvard University
Hebrew Rehabilitation Center for the Aged
Housing Innovations, Inc.
I.B.M.
Judge Baker Children's Center
Kansas City Planning & Urban Design Division, City Development Department
Liberty Trust (Store 24)
Logue Boston
Massachusetts Bay Transportation Authority
Massachusetts Department of Capital Planning and Operations
Massachusetts Port Authority
Merrimack Valley Rapid Transit Authority
Metropolitan Structures
National Park Service
New Haven School Committee
New York City Transit Authrity
New York State Urban Development Corporation
North Cambridge Cooperative Bank
Northeastern University
Providence Housing Authority
Sonesta Corporation
Southern California Rapid Transit District
Stone & Webster Engineering Company, Inc.
Tenants Development Corporation
United South End Settlements
United States Coast Guard

HALEY & ALDRICH, INC.

CORPORATE ORGANIZATION, QUALIFICATIONS AND EXPERIENCE

GENERAL

The following information provides a brief description of the history of Haley & Aldrich, Inc., its staff organization, awards, scope of services, laboratory facilities, quality assurance, and cost control.

HISTORY

Haley & Aldrich is a firm of consulting geotechnical engineers, geologists and hydrogeologists. The firm's geotechnical work includes soil and rock mechanics, foundation engineering, engineering geology, seismic risk analysis and instrumentation. Our environmental services range from environmental site assessments for real estate transfer to the remediation of major hazardous waste disposal sites. We provide a complete range of services to see our clients through all phases of site evaluation, design, construction and post-construction monitoring.

Since our founding in 1957, Haley & Aldrich has participated in more than 8,000 projects from highways, dams, tunnels and other infrastructure improvements to buildings from one-story warehouses to high-rises in excess of 40 stories. Although our work is concentrated in the Northeast, we routinely provide services throughout the U.S. and also have worked in numerous foreign locations.

STAFF ORGANIZATION

Haley & Aldrich is wholly owned by its twenty-five Principals, Associates and senior professional personnel, all of whom are full-time employees of the firm. The principal office and laboratories are located in Cambridge, Massachusetts. There are three branch offices, in Portland, Maine; Glastonbury, CT and Bedford, New Hampshire, and an affiliate office, H&A of New York, is located in Rochester, New York.

The total staff numbers approximately 280 with over 150 civil engineers, geologists, hydrogeologists, and scientists most of whom have received graduate degrees. Six hold doctoral degrees in geotechnical engineering and geology.

AWARDS

Most recently the firm won the 1987 American Consulting Engineers Council (ACEC) Grand Conceptor Award, the top award in New England, and a 1988 Honor Award from the national organization for its work on the Rowes Wharf Development. In 1985, Haley & Aldrich received an ACEC/NE Award for Excellence for the Massachusetts Bay Transportation Authority Porter Square Subway Station in Cambridge, Massachusetts. Other ACEC awards include a 1984 Award of Excellence for a "Lime Lagoon Closure Program" for the Eastman Gelatine Corporation in Peabody, Massachusetts; the 1981 Grand Conceptor's Award as geotechnical consultant for design and construction of the Trident drydock, Bangor, Washington; and in 1976, the Grand Conceptor Award for its work on "Sixty State Street, Protecting the Cradle of Liberty", Boston, Massachusetts.

SCOPE OF SERVICES

Haley & Aldrich normally serves as either a project design team member or in direct consultation with the Owner, providing reports containing soil, rock and groundwater data, interpretation of these data and conclusions and recommendations relative to geotechnical engineering, geologic and hydrogeologic aspects of the project.

A typical full-service Haley & Aldrich project includes the following scope and sequence. This list is routinely modified as needed to suit client needs and objectives:

- Geologic studies including literature reviews, air photo interpretation, reconnaissance and field mapping, as required to define subsurface conditions, feasibility of the site for construction and to determine preliminary foundation and site development requirements.

- Monitoring of subsurface explorations and conduct of field tests including boreholes, test pits, geophysical surveys, groundwater observation wells and piezometers, field permeability tests and groundwater sampling.

- Laboratory testing to classify soil and rock and determine engineering properties for design purposes.

  Engineering, geologic and hydrogeologic analyses and recommendations for foundations, earthwork, groundwater control or protection, and other geotechnical features of the project.

  Specification provisions for construction including foundations, dewatering and earthwork.

- o Construction monitoring including observation of foundation construction and earthwork, associated field and laboratory testing, and geotechnical instrumentation required to monitor the behavior of the structure and adjacent property during and following construction.

- o Client support in the regulatory process associated with environmental impact and permitting.

Some of the special services and capabilities of the firm and its key personnel include:

- o Hydrogeologic studies related to groundwater, with special emphasis given to controlled and uncontrolled waste disposal sites.

- o Design, installation and monitoring of geotechnical instrumentation.

- o Blast and construction vibration monitoring.

- o Seismic risk evaluations, earthquake engineering, and soil dynamics.

- o Use of vertical sand and wick drains.

- o Evaluation of frost and permafrost problems.

LABORATORY FACILITIES

Haley & Aldrich maintains fully-equipped soil and rock testing laboratories capable of performing standard classification, strength, consolidation and permeability tests. In addition, dynamic testing equipment is maintained for specialized cyclic triaxial and resonant column testing. A full array of rock mechanics laboratory equipment is used for the engineering classification of core and block samples recovered for rock engineering projects.

QUALITY ASSURANCE

The Quality Assurance Program has been developed in accordance with current and accepted industry practices and standards. It provides the framework by which geotechnical engineering, field and laboratory services are conducted. Manuals of technical procedures for laboratory testing and for field exploration and testing have been prepared. These procedures are the basis by

which the firm's laboratory and field work are performed. The manuals are also used for orientation and training of new personnel under the supervision of experienced key personnel. Quality assurance in engineering services provides control over the quality of studies and analyses and the presentation of data, results and recommendations in reports.

COST CONTROL

Haley & Aldrich exercises financial control of its geotechnical and environmental services, initially through a policy of having project proposals prepared by those who will manage the work. Thereafter, financial control includes a weekly posting of manpower and expenses, all furnished to the project manager on a category-related and percentage-expended computer printout. Weekly reports are reviewed by the Business Manager.

0141z/888

Services
Haley & Aldrich, Inc. serves as a project team member or works in direct consultation with the owner, providing services in one or more of five principal categories.

Site characterization
Geological reconnaissance and mapping determine probable subsurface conditions at a site. From this information, the feasibility for construction, preliminary foundation and site development costs, and the anticipated scope of field explorations and related services are developed.

Field and laboratory tests
Field explorations [illegible] test borings, rod probing, test pits and groundwater observation wells reveal representative profiles of underground conditions. Laboratory tests classify earth materials and assist in determining pertinent engineering properties.

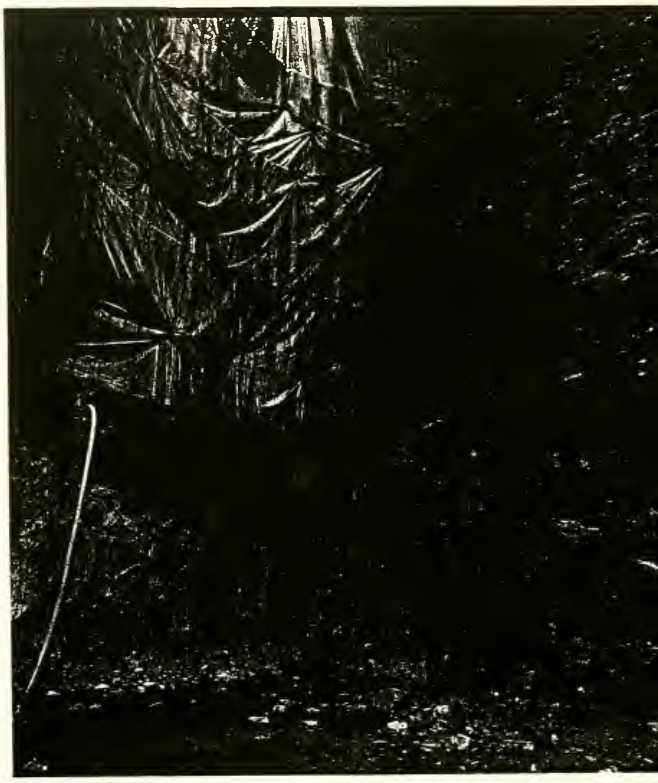
ıe Underground World

ɔmplex, unpredictable, variable—these terms gin to describe the geophysical world below the rth's surface.

ılike construction materials such as steel, concrete d wood, the physical properties of soil and rock—dden beneath the earth's crust—cannot be easily sted and measured. Similarly, determining the currence and movement of groundwater is complited by changes in season, rainfall, temperature, ological factors and human activities.

ith the technological advances in design and conuction over the past thirty years, the need for bsurface information has become an increasingly ıportant component in the development of buildings, nnels, highways, bridges, dams and other structures. s a member of the design team, the geotechnical nsultant contributes to the project development pross an understanding and knowledge of this complex ıderground world.

ature, to be commanded, must be obeyed.
ancis Bacon



A 120 ft. deep shaft blasted in bedrock for subway station

Clamshell bucket used to excavate a 60 ft. deep diaphragm foundation wall

Rock excavated from building site for re-use to form retaining walls

ogeological tigations
ying aquifers and nining the rates and ons of groundwater re central investigative When contamination curred, field studies the nature, source eas of impact Design mendations and re- actions are provided

Engineering analysis and recommendations
Depending upon project requirements, geotechnical analyses identify the feasibility and economic impact of various alternatives for foundation systems, earthwork and other engineering design considerations. A report documents specific findings and recommendations.

Construction monitoring and instrumentation
Monitoring during and after construction includes observation of construction, remedial actions and earthwork. A key element is field instrumentation which monitors the impact of construction activities on the site and adjacent properties.

Risk Management

Uncertainties and limitations associated with underground conditions impose a certain degree of financial and technical risk on all design and construction projects.

The degree of risk—exposure to a chance of injury or loss—is difficult to anticipate without the involvement of geotechnical consultants. Owners and administrators initiating projects must obtain information early in the planning and design process to help them decide which risks are acceptable and which are not.

Through education, experience and informed judgment, geotechnical engineers, geologists and hydrogeologists can assess potential risk factors, but they cannot eliminate these factors altogether. It is rather their role to assist clients in the management of risk.

It is the aim of geotechnical consultants to investigate pertinent subsurface factors and provide recommendations that reflect acceptable risks with reasonable costs, thereby contributing to a successful project outcome.

Flight auger used in excavation of caissons to support high-rise building

Cost Effective Measures

In the practice of geotechnical engineering and hydrogeology, reducing project costs requires the evaluation of the range of techniques and products that may offe cost effective alternatives. Haley & Aldrich adapts standard approaches and uses new techniques in an e fort to achieve a balance between the technical requir ments and cost considerations of the project.

For one project that would have required a costly test boring operation, Haley & Aldrich adapted a percussion drill to function as a subsurface acoustic probe for locating bedrock overlain by boulders and fractured rock.

In its effort to practice cost effective techniques, Hale & Aldrich has used sand or wick drains to accelerate the time consuming surcharging process which squeez es out water from the soil to prepare it for foundation work. Another cost-saving application involves the use of concrete mat foundations which the firm recommends for many major buildings, and thus elim inates the substantial costs of deep pile installation.

mples are obtained test pit at a hazardous site.

City skyline including many H&A projects

ey & Aldrich, Inc. vides comprehensive vices including:

- character zat on
- surface nvestigations in-situ test ng
- orator soil and rock ting
- drogeological evaluat ons
- and hazardous materials assessments
- Foundation design recommendations
- Technical provisions of specifications
- Groundwater resources evaluat on and development
- Design of dams and reservoirs
- Stab ity analyses of earth and rock slopes
- Underground engineering for tunnels shafts and underpinning
- Design of support systems for earth and rock
- Pre-construction surveys of abutting structures
- Blasting and vibration evaluations
- Underwater surveys
- Field instrumentation
- Construction and post-construction monitoring

New Techniques and Applications

Throughout its history, Haley & Aldrich has taken the position that conventional geotechnical procedures may not always be appropriate for the particular conditions of a site or the requirements of the project.

For the first major underground subway chamber constructed in bedrock, in metropolitan Boston, the firm identified and utilized an approach to tunnel design that incorporates a single support system rather than the more costly double support system typically installed during and after excavation.

For an urban office complex, Haley & Aldrich recommended a foundation concept and construction procedure unique to the region. A tied-back concre diaphragm wall, constructed by the slurry trench method, was used for the first time in New Englan in response to the challenges and requirements of the project. Since then, Haley & Aldrich has emplo this technique on more than a dozen major urban excavations.

These applications illustrate the firm's continuing effort to review new commercial products, techniq and data for incorporation into its practice.

Underlying Values

Finally, any presentation of the expertise and servic of Haley & Aldrich, Inc. is incomplete without con sidering its underlying values and objectives.

From its inception, the firm has been dedicated to technical competence, responsive service, and ethic business practices. As the organization has grown the years, it has retained its original commitment t maintaining a staff that is knowledgeable and chal lenged by its work, and to enhancing its capabilitie in a way that contributes technically appropriate a economical solutions for its projects.

Haley & Aldrich, Inc.

Haley & Aldrich, Inc. is a consulting engineering firm with a professional staff of over 100 geotechnical engineers, geologists and hydrogeologists, most of whom have advanced degrees in their respective areas of specialization.

In 1957, Haley & Aldrich became the first geotechnical partnership to establish a practice of its kind in New England. Over the years, the firm has participated in more than 6,000 projects in the Northeast, throughout the United States, and abroad.

Geotechnical engineering is a branch of civil engineering specifically concerned with the subsurface conditions of soil, rock and groundwater, and their relationship to constructed facilities.

The engineering design of all structures and any changes to the natural environment require an understanding of subsurface conditions within a project area. Geotechnical consultants—geotechnical engineers, geologists and hydrogeologists—evaluate the engineering properties of soil and rock occurring at a site to determine their expected behavior under varying conditions, and analyze the presence and significance of groundwater at the site.

It is from this evaluation that the engineering design evolves, adapting to existing conditions or modifying them to achieve the requirements of the project.

Martin C. Murphy

Principal and Senior Vice President
Haley & Aldrich, Inc.

Experience

1960 - Present	Haley & Aldrich, Inc. 1966 Associate and Vice President 1972 Principal and Senior Vice President

Project engineer and project manager for geotechnical aspects of a broad range of projects. Experience includes water and wastewater treatment plants, pipelines, highways, bridges, buildings, waterfront structures, large site development projects such as regional shopping centers, permanent and temporary lateral earth support systems, and large storage tanks for liquified natural and propane gas, petroleum and municipal water systems.

The scope of experience ranges from preliminary feasibility studies, through design investigations, preparation of plans and specifications, to consultation and monitoring during construction. Individual projects have also included investigations of failures and testimony during litigation.

Highway experience includes numerous roadways, bridges and retaining walls and in a variety of soil conditions in the Northeast. Projects have included stabilization of soft soils by surcharging and sand drains, stabilization of side slopes in cuts, and design of roadway subdrain systems and pavement cross sections.

Wastewater treatment facility experience includes pumping stations requiring deep excavations in soft soils, the various plant structures, basins and tanks, river relocations, and dikes for flood protection. Pipelines in connection with this work have generally been large-diameter interceptors requiring deep excavations, frequently in poor soil/water conditions. Projects in urban areas have required evaluation of the possible impact of construction on adjacent structures and utilities, and the need and methods to control groundwater lowering areas adjacent to the construction. Pipeline experience also includes pipe jacking, river crossings and outfalls into rivers and harbors.

Experience in buildings ranges from single story shopping centers to high rise buildings in urban locations. Foundations have included spread footings, mats, caissons and a variety of pile types.

1954 - 1960 Edwards and Kelcey, Inc.

Soil Engineer with responsibility for geotechnical aspects of design of highways, bridges and municipal facilities.

1952 - 1954 U. S. Marine Corps

Mr. Murphy served as an artillery officer in the U. S. Marine Corps, with service in Japan and Korea.

1951 - 1952 Porter, Urquhart and Skidmore, Owings and Merrill

Junior Soil Engineer with duties including construction control and evaluation of airfield pavements at NATO bases in French Morocco.

1972 - 1976 Northeastern University (Lincoln College, Evening Div.)

Lecturer in Materials and Soil Mechanics.

Education

Massachusetts Institute of Technology, Cambridge, MA S.B. 1951

Graduate-level courses in Soil and Foundation Engineering, Concrete Technology, and Hydrology at Northeastern University, Boston, MA

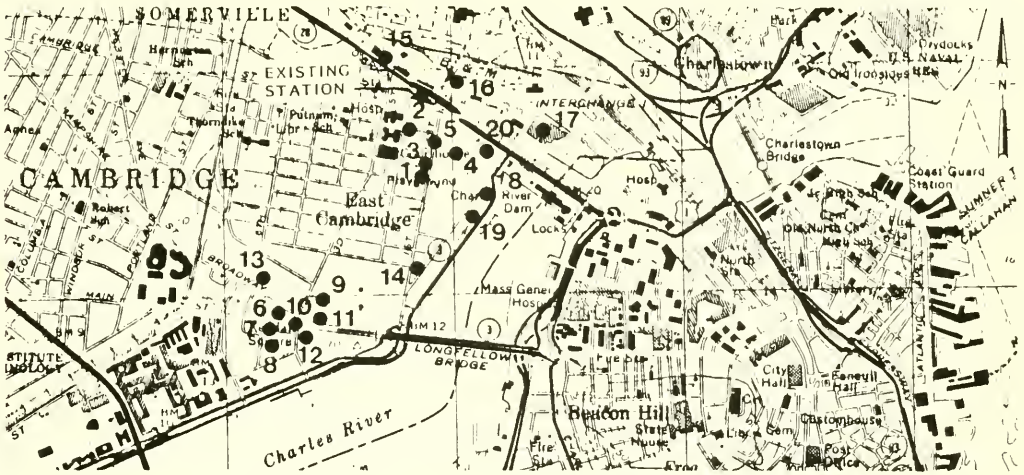
Professional Registration

Massachusetts

Professional Societies

American Society of Civil Engineers
Boston Society of Civil Engineers Section, ASCE

0046Z/186



KEY NO.	PROJECT	CLIENT
1	JEFFERSON CONSTRUCTION CO. BUILDING	WERNER GUMPERTZ
2	NEW COURT HOUSE MIDDLESEX COUNTY COURT HOUSE	MIDDLESEX COUNTY COMMISSIONER LEMESSURIER ASSOCIATES
3	PROPOSED EAST CAMBRIDGE PARKING GARAGE	STURGIS-VITOLS JOINT VENTURE
4	LECHMERE CANAL PROJECT	CAROL R. JOHNSON
5	LECHMERE SALES 121 FIRST STREET BUILDING	SYMMES, MAINI & MCKEE
6	CAMBRIDGE CENTER	BOSTON PROPERTIES
7	MBTA KENDALL SQUARE STATION MODERNIZATION	WALLACE, FLOYD, ELLENZWEIG, MOORE
8	SITE DEVELOPMENT STUDIES, M.I.T. CAMPUS	SKILLING, HELLE, CHRISTIANSEN, ROBERTSON
9	PROPOSED TRASH FACILITY, BADGER COMPANY	GILBRANE PROPERTIES, INC.
10	KENDALL SQUARE URBAN RENEWAL AREA	FAY, SPOFFORD & THORNDIKE, INC.
11	PROPOSED GARAGE EXTENSION	THE BADGER COMPANY, INC.
12	M.I.T. MARRIED STUDENT HOUSING BUILDING EAST CAMPUS	PAUL WEIDLINGER
13	"KENDALL GREEN" PROJECT	FAY, SPOFFORD & THORNDIKE, INC.
14	SIGN FOR WORLD TIRE CO./MICHELIN COMMERCIAL AVE.	BATTEN BROTHERS, INC.
15	PROPOSED MAYTAG GRAY BUILDING	SYMMES, MAINI & MCKEE
16	CEMENT SILO - NORTHEAST CEMENT CO.	LAFORGE CONSULTANTS, INC.
17	FEDERAL LIQUORS, LTD. ADDITION TO FEDERAL LIQUORS, LTD. FEDERAL DISTILLERS WAREHOUSE	SYMMES, MAINI & MCKEE SYMMES, MAINI & MCKEE FEDERAL DISTILLERS, INC.
18	SONESTA HOTEL ADDITION	SONESTA INTERNATIONAL HOTELS CORP.
19	ONE RIVERSIDE PLACE	CABOT, CABOT & FORBES CO.
20	GRAVES LANDING CONDOMINIUMS	UNIHAB

HALEY & ALDRICH, INC.
PROJECTS IN
EAST CAMBRIDGE, MA

BRYANT ASSOCIATES, INC.
Consulting Engineers

648 BEACON STREET
P O BOX 38 KENMORE STATION
BOSTON MASSACHUSETTS 02215 0038
TELEPHONE (617) 247 1800

Bryant Associates, a minority owned professional consulting engineering firm formed in 1976, serves a broad cross section of municipal, industrial, regional, state and federal clients in the survey, planning, design and construction management of environmental facilities; transportation oriented projects including highways, rail, parking facilities and seaport installations; and, civil works involving urban renewal, utilities, demolition and rehabilitation of buildings, streets, drainage and site development.

The Company has grown during this ten-year period to its current staff of seventy-two and the senior members of the firm are all professional engineers with more than 150 years of combined engineering and surveying experience.

Bryant Associates is headquartered in Boston with a staffed regional office in Syracuse, New York. The professional staffs and support personnel at these locations, working in concert with one another, have the demonstrated ability and the capacity, born of long experience, to undertake the wide ranging assignments and to complete the various tasks within required schedules and budgetary constraints.

The principals of the firm have been involved in many facets of engineering in an administrative capacity. Their records emphasize their managerial ability in organizing and completing projects of a major scale within design and construction parameters.

The combined staff of Bryant Associates can bring to an assignment the professional qualities necessary to progress any project to a successful conclusion. Among these are the following:

- Indepth experience in working for private and public agencies.
- Proven results in the preparation of contract documents and specifications.
- Experience in coordinating the efforts of reviewing authorities, public and private agencies, co-designers and the community. The key staff of Bryant Associates are experienced in the organization and implementation of the team concept in the design of complex projects.

Bryant Associates is presently completing various design projects for Massachusetts Department of Public Works, the Massachusetts Port Authority, the Vermont Agency of Transportation, and the New York and Rhode Island Departments of Transportation.

REPRESENTATIVE PROJECTS

MASS TRANSIT

Massachusetts Bay Transportation Authority

- Trackless Trolley Facility - Cambridge, MA

  Bryant Associates, Inc. (BAI) performed all surveying tasks prepared contract documents for site engineering which included roads, parking lots, sanitary and storm sewers and utility relocations.

- Everett Maintenance Facility - Everett, MA

  Bryant Associates, Inc. was responsible for all site engineering, including parking areas, storm and sanitary sewer inspection and rehabilitation, surveying and utility relocation.

- Station Modernization and Rehabilitation - Boston, MA

  Bryant Associates, Inc. is responsible for all surveying, utility relocation, drainage and maintenance of vehicular traffic for the lengthening of platforms of six subway stations and four at grade stations to accommodate longer trains.

- Track Rehabilitation Program - Boston, MA

  This program requires the replacement of the track structure and the installation of welded rails throughout the old system over a period of five years. BAI is responsible for the surveying and drainage for this project.

Metropolitan Atlanta Rapid Transit Authority

- Construction Contract CN480-Canterbury Road to East Paces Ferry Roa

  This project consists of the construction of 2300 LF of embankment section paralleling the active tracks of the Southern Railway and 1800 LF of aerial structure to allow the proposed MARTA alignment to cross over these tracks. Bryant Associates, Inc., as a subconsultant was responsible for all civil engineering work including site engineering, grading, utility relocations, streets and access roads design and other civil engineering related tasks.

Washington Metropolitan Area Transit Authority

- Design Section F-5 - Anacostia Station - Rosecroft Route-Washington, D.C.

  This project requires the design of 400 LF of cut & cover tunnel containing a major transit station. The alignment traverses a 6-lane Interstate Highway, a 4-lane parkway and

a 4-lane boulevard all located in a congested residential area. Bryant Associates as subconsultants was responsible for surveying, R.O.W. maps, utility relocations, maintenance of traffic, street reconstruction, parking areas, grading and drainage and other civil engineering related tasks including plans, specifications and estimates.

Lowell Rapid Transit Authority

- Gallagher Terminal - Lowell, MA

  This project consists of the design of an intermodal facility for buses, taxis, commuter rails and automobiles. Bryant Associates, Inc. was responsible for all site engineering, utility relocation, access road, maintenance of traffic and the preparation of preliminary and final design plans, specifications and estimates for all civil engineering work.

Brockton Area Transit

- Campello Bus Terminal - Brockton, MA

  This project consists of the renovation of an old building to be used as a repair facility for buses. Bryant Associates, Inc. is responsible for the site engineering, the surveying and utility relocation design support of the project.

COMMUTER RAIL

Northeast Corridor Improvement Program

- Cedar Hill-Maintenance of Way Base-New Haven, Connecticut

  BAI prepared preliminary and final design for all the site work of a major Maintenance of Way Base in New Haven, Connecticut which included the design of all the rail facilities, utilities, parking areas, access road, lighting, on-site disposal system and grading and drainage.

- Surveying-Northeast Corridor-Boston, MA to Washington, D.C.

  BAI has provided survey services for more than 150 miles of main line track on the Northeast Rail Corridor between Boston, Massachusetts and Washington, D.C. and was responsible for drainage design and "best fit" alignment for 18 miles of main line track.

New York Metropolitan Transportation Authority

- Harlem Division

  Surveys and Mapping for improvements to platforms at 14 stations.

- Brewster Station

  Surveys and Mapping for improvements to the drainage system between Brewster Station and Brewster Yard.

Long Island Railroad

- Survey and Mapping for the Port Jefferson Branch from Cold Spring Harbor to Port Jefferson and the main line from Bethpage to Ronkonkoma.

Cape Cod Railroad

- Subconsultant for the preliminary study of the rehabilitation of the rail service between Boston and Cape Cod, Massachusetts. Responsible for site investigation for the rehabilitation of stations and their appurtenances.

RESUMES -KEY PERSONNEL

HOWARD GOLDBERG

Vice President

EDUCATION/REGISTRATION

B.S. - Northeastern University; Civil Engineering
M.S. - Northeastern University; Civil Engineering
Value Engineering Workshop - 40 hrs. recognized
EPA/GSA/FHWA/Society of American Value Engineering

Registered Professional Engineer in Massachusetts, Connecticut, New York, New Hampshire, Rhode Island and Florida.

MEMBER: New England Water Pollution Control Association

EXPERIENCE

Mr. Goldberg is the project engineer on the site plans, utility relocations and drainage design for rail related projects on the M.B.T.A. and Northeast Corridor Improvement Project. Among the projects he is participating in are the power supply system for the rail corridor from New Haven, CT to Boston, MA, final site designs for the M.B.T.A. Everett Maintenance Yard and the related civil/site work associated with the platform lengthening on seven M.B.T.A. Station Modernization Projects.

In addition, Mr. Goldberg has been project engineer for new sections of subway projects in Atlanta and Washington, D.C. Each of these projects has included major utility relocations and maintenance of surface and adjacent rail traffic.

His experience includes services for municipalities such as Webster, Boston and Lowell. These projects included simple repaving projects, major sewer lines, water and gas line relocations and construction administration of these projects.

NORMAN I. LIPSITZ

Chief of Surveys

EDUCATION/REGISTRATION

A. E. Wentworth Institute

Registered Land Surveyor in the States of Massachusetts and Rhode Island

MEMBER: American Congress on Surveying and Mapping

EXPERIENCE

Mr. Lipsitz's professional career spans more than 17 years of experience in all phases of land surveying.

At Bryant Associates, Inc., Mr. Lipsitz is the Chief Surveyor responsible for all field survey personnel, deed research, calculations, preparation of right-of-way drawings, property plans and related surveying requirements associated with various projects undertaken by the firm. Recent projects under his direction include the surveys for the North Section of the Central Artery for the Massachusetts Department of Public Works, the Columbia Point Housing Improvements for the development team, the North Station Improvement Project for the Massachusetts Bay Transportation Authority and several private development projects.

Mr. Lipsitz supervises the activities of Bryant Associates five (5) survey parties, including scheduling, coordinating the reduction of field notes and plotting of the field information.

Prior to joining Bryant Associates, Inc., Mr. Lipsitz was responsible for the surveying for the Southwest Corridor Project (Orange Line Relocation) for the Massachusetts Bay Transportation Authority. This involved surveying of existing conditions, surveying of property lines for the proposed takings and preparation of all right-of-way drawings required.

SECTION II

SCOPE & FEE PROPOSAL

KEY ISSUES & APPROACH

Mission statement: It is the mission of the multi-disciplinary design team to meet fully he BRA's design and construction schedule by producing landscape architecture and engineering design contract documents that a) are high quality, b)incorporate architectural, urban design, landscape, and engineering concerns, c)address public concerns, d)assure a project of civic importance.

DESIGN & AESTHETIC ISSUES

A site visit and an initial review of the schematic plan reveals exciting design opportunities for the project team. The following items to address were identified:

- o Gateway and Terminus of Columbus Avenue
- o Complementary Relationship of Site to Local Landmarks
- o Multiple Traffic Modes : Pedestrian; Bicycle; Automobile; Bus; And Train Traffic
- o Coordination and Interface With Adjacent Development Sites

TECHNICAL

- o Utility Design for Anticipated Development
- o Environmental Concern: Subsurface Soil Quality on Urban Site
- o Traffic Engineering: Temporary & Permanent Street System Modifications

PLANNING & REVIEW

- o Community Involvement in a Transitional Neighborhood
- o Coordination with the MDC and Southwest Corridor recreational activities
- o Coordination with the MBTA's Service Goal

SOCIO-ECONOMIC

- o Safety / Defensible Space - address programmatic issues that promote an active and safe space to create the ability to extend events of City Hall Plaza to Ruggles Center Plaza
- o Cultural Center for Roxbury - design to create a "living room" for Roxbury by enabling space to support a vital mixture of public and commercial activities
- o Maximize the Social Benefits of the Investment through the "created value" of high quality design
- o Create an attractive design that enhances opportunities for private investment
- o Create a pleasant and vibrant civic space appropriate to acapital city

PROJECT RESPONSIBILITIES

Paul C.K. Lu & Associates (PLA)

As prime consultants, PLA will assume chief responsibility for all project efforts and serve to facilitate all communication and coordination efforts between the client and subconsultants. With specific regard to design, PLA will undertake all landscape and streetscape design, provide lead role in the public review and community participation process, and direct subconsultant design efforts with regard to client programmatic objectives and aesthetic considerations.

Parsons Brinckerhoff, Inc. (PBQD)
Consulting Engineers

As the engineering subconsultant to Paul C.K. Lu & Associates, Parsons Brinckerhoff will assume responsibility for project engineering efforts. With specific regard to design, PBQD's effort will include the preparation of design and contract plans, details, and specifications for all civil site elements required for the construction of the Columbus Avenue Extension and the Plaza area. The firm will also assist in the public review and community participation process.

Stull & Lee, Inc. (SL)
Urban Designers

As master planners for Ruggles Center and Phase I architects , SL will provide invaluable design review assistance throughout the project in order to assure continuity between the design principles of the master plan and Ruggles Center Plaza. They will also coordinate the interface between the proposed buildings and the site improvements associated with this project and provide assistance as requested in the public review and community participation process.

Haley & Aldrich, Inc. (HA)
Geotechnical Consultants

To the extent required in order to complete the contract documents, HA will be responsible for evaluating the subsurface soil/groundwater conditions and make recommendations for the geotechnical aspects of the project. The services could possibly be extended to include an assessment of the applicability or impact of the"Massachusetts Oil and Hazardous Materials Release Prevention Act and Response Act" MGL Chapter 21E, if required.

Bryant Associates (BA)
Surveyors

To the extent required in order to complete the design, Bryant Associates will be responsible for supplemental land surveys which may include topographic, property, and utility work.

SCOPE OF SERVICES

The scope of services shall be as defined and described in the RFP Document for this project, pages 8 through 15. Task items 0.1 and 0.2 are listed in order to clarify Task 2.0 Preliminary Design.

The majority of the design work will be performed and coordinated by Paul C.K. Lu & Associates . Parsons Brinckerhoff, Inc., as engineering subconsultant to Paul C.K. Lu & Associates, will be responsible for the project engineering efforts. Design review and coordination will be provided by Stull & Lee. Haley & Aldrich will perform geotechnical investigations as needed and Bryant associates will be available for survey services as needed.

It is anticipated that Task 1.0 Supplemental Land Survey(s) and the extent of geotechnical services will be defined after tasks 0.1 and 0.2 are performed.

The following assumptions concerning the scope of services were made when preparing the fee proposal.

TASK DESCRIPTION

0.1 Review of Information

Entails a kick-off meeting to clarify goals and objectives for the project. The consultant(s) will perform a site analysis, review pertinent data and reports, and assemble critical cost data to be used in evaluating the existing design.

0.2 Review of Schematic Design

This task may involve up to three(3) meetings one of which will be a design workshop. The purpose of this task is to evaluate the existing design, gather citizen input, evaluate developer concerns,perform a preliminary cost estimate, and produce design recommendations, implementation strategies, and establish survey and geotechnical services requirements. the products of this effort will be in written and graphic drawings format. The product of this effort will serve to guide the design development of the plaza.

1.0 Supplemental Land Surveys

To be performed on an as needed basis and upon approval of the client once the design intent and parameters are established in tasks 0.1 and 0.2.

2.0 Preliminary Design (Preliminary Engineering)

The results of tasks 0.1 and 0.2 will be used in developing the preliminary landscape architecture and engineering documents as described in the RFP for this project.This phase may involve more than one design alternative and will consist plans, schematic details, cost estimating, and outline specifications for review and approval before proceeding with further design tasks.

3.0 Public Approvals / Review

This phase will involve agency review, meetings,and the preparation of presentation drawings. The P.I.C documents, which could potentially be a significant undertaking if needed, are covered under Task 8.0 As Required Additional Services. Up to five meetings have been budgeted for this task.

4.0 Community Participation Program

A critical component of this project; up to five(5) meetings have been budgeted for this task. In addition to attending and conducting meetings, the consultant will prepare presentation materials to communicate design intentions for the site.

5.0 Final Design (engineering) & Bid Documents

Upon approval of preliminary design by interested parties, the consultant will prepare the final landscape architecture and engineering design contract documents as well as prepare a construction cost estimate.

SCOPE OF SERVICES cont'd

6.0 Consult, Advise, Coordinate

This task, to be in effect for the duration of the contract, has been budgeted up to 24 meetings (assume one meeting per month for two years).

7.0 Construction Services

This phase involves shop drawing review, field sketches, construction observation, as built drawings, and site conferences.

For site resident engineering services, please see Task 8.0.

8.0 As Required Additional Services

The subtask items under this section will be performed on as needed basis with approval of the client. The consultant will prepare proposal for these services when the scope becomes more evident during the preliminary stages of the project. This task involves management and administration of these services, surveys, the P.I.C. Documents, site resident engineering at 4 hours per day for 100 days , geotechnical services, and assistance by Stull & Lee in public approvals, community participation, and construction services.

FEE PROPOSAL

Due to the complexity of the project, particularly the implementation schedule which is closely linked to the construction schedule of the parcel 18 site(s), the prime consultant itemized tasks to allow flexibility in the final scope and contractual agreements between the BRA and the prime consultant for the project.

This approach, equitable to all parties involved, enables the BRA choose the amount of services to proceed with beyond the necessary design tasks. The major advantages to this approach are:

1) Reduces or eliminates the risk premium normally applied to projects with uncertain construction schedules

2) Allows flexibility in contracts and negotiation for all parties

FEE PROPOSAL

TASK	DESCRIPTION	PLA	PBQD	SL	HA	BA	SUBTOTAL
0.1	Review of Information.....	1160	1480	440	-	-	3,080
0.2	Review of Schematic Design.....	4200	1480	2100	-	-	7,780
1.0	Supplemental Land Surveys..... verify existing conditions survey	-	-	-	-	8(b)	See 8(b)
2.0	Preliminary Design (Engineering)	18120	11720	4460	-	-	34,300
3.0	Public Approvals / Review..... * Meetings with agencies & Presentation drawings for review by Boston Enviro. Dept, Landmarks, MDC etc , * For P.I.C. Documents see 8(c)	8400	6540	8(d)	-	-	14,940
4.0	Community Participation Program..... * Up to 5 community meetings or workshops including presentation drawings	8400	8180	8(e)	-	-	16,580
5.0	Final Design (engineering) & Bid Documents...	36000	28890	2560	-	-	67,450
6.0	Consult, Advise, Coordinate..... * 24 meetings	14400	11320	5650	-	-	31,370
7.0	Construction Services..... * Office work & weekly site conferences * Shop drawing review, field sketches * Construction observation, * As built drawings * For Resident Engineering see 8(h)	9000	6000	8(g)	-	-	15,000
	Subtotal For Recommended Basic Services	99,680	75,610	15,210	-	-	190,500
	Estimated Direct Reimbursables Expenses	10000	11000	500	-	-	21,500

PLA - Paul C.K. Lu & Associates
PBQD- Parsons Brinckerhoff, Inc.
SL - Stull & Lee, Inc.
HA - Haley & Aldrich, Inc.
BA - Bryant Associates

FEE PROPOSAL cont'd

TASK DESCRIPTION	PLA	PBQD	SL	HA	BA	SUBTOTAL
8.0 As Required Additional Services Provided Upon Client Approval						
(a) Administration Contingency	4800	3090	-	-	-	7,890
(b) Survey Verification, additional surveys Budget fee *** see note	-	-	-	-	10,000	10,000
(c) P.I.C. Documents if required	-	9030	-	-	-	9,030
(d) SL Assist in Public Approvals/Review	-	-	3190	-	-	3,190
(e) SL Assist in Community Participation	-	-	2350	-	-	2,350
(g) SL Assist in Construction Services	-	-	2240	-	-	2,240
(h) Site Resident Engineering One person at 4 hours/day for 100 days	13200	8800	-	-	-	22,000
(i) Geotechnical Investigations Budget fee *** see note	-	-	-	15000	-	15,000
Subtotal Recommended Additional Scope Items	18,000	20,920	7,780	15,000	10,000	71,700

***Note: For this scope item, fee subject to adjustment depending on final scope

FEE SUMMARY

1. Estimated Fee for Scope Tasks 0.1 to 7.0.....$190,500
2. Estimated Reimbursable Expenses 21,500
3. Estimated Fee for Scope Task 8.0 71,700

Estimated Fee Range, Subject To $190,500
Negotiated and Approved sub-tasks $262,200
under Scope Item 8.0 (excluding reimbursable expenses)

BILLING RATES

Professional services other than those described above will be billed at the hourly rates listed below. Should the contract extend beyond the anticipated two year period, these rates are subject to appropriate adjustment.

Paul C.K. Lu & Associates	
Principal/Project Designer	$ 75/hr.
Associate / Project Manager	$ 50/hr.
Project Landscape Architect	$ 40/hr.
Technical Staff	$ 30/hr.
Draftsperson/Administrative	$ 25/hr.
Parsons Brinckerhoff, Inc.	
Project Manager	$ 95/hr.
Senior Engineer	$ 82/hr.
Engineer	$ 55/hr.
Drafter	$ 41/hr.
Stull & Lee, Inc.	
Principal/Urban Designer	$136/hr.
Associate/Project Manager	$ 71/hr.
Technical Staff	$ 56/hr.
Haley & Aldrich, Inc.	
Principal	$125/hr.
Senior Engineer	$ 87/hr.
Staff Engineer	$ 75/hr.
Assistant Engineer	$ 53/hr.
Senior Geologist	$ 83/hr.
Staff Geologist	$ 50/hr.
Assistant Geologist	$ 45/hr.
Technician/Exploration	$ 40/hr.
Technician/Laboratory	$ 35/hr.
Drafter	$ 53/hr.
Word Processor	$ 40/hr.
Office Assistant	$ 32/hr.
Bryant Associates, Inc.	
Chief of Survey	$ 80/hr.
Party Chief	$ 36/hr.
Instrument Person	$ 28/hr.
Rodperson	$ 21/hr.
Senior Technician	$ 43/hr.
Technician	$ 29/hr.
Senior Drafter	$ 33/hr.
Drafter	$ 26/hr.

SECTION III

STANDARD FORMS

The Commonwealth of Massachusetts
Department of Commerce and Development
Leverett Saltonstall Building, Government Center
100 Cambridge Street, Boston 02202

727-3221

March 27, 1987

Paul C. K. Lu,
Paul C. K. Lu and Associates
69 Trapelo Road
Belmont, MA 02178

Dear Mr. Lu

The State Office of Minority and Women Business Assistance (SOMWBA) is pleased to notify you that your firm was reviewed on 3/05/87 and certified as a minority owned business enterprise (MBE) under the category of Landscape Design Architects. The company will be listed in the SOMWBA Directory which is published regularly and in the Massachusetts Central Register which is also published at regular intervals.

Additionally, the SOMWBA Directory is sent to other state agencies and authorities such as the Massachusetts Port Authority, Turnpike Authority, Department of Public Works, cities and towns and many other public and private organization who seek to fulfill MBE utilization requirements.

Certification is not a fixed designation and SOMWBA reserves the right to monitor your company and to conduct periodic reviews of your company's books, contracts, company structure, facilities, job locations, and to withdraw its certification of your firm should this become necessary.

On or before your firm's certification anniversary date of (3/05/88), plan to send to us the following documents:

(1) The latest company financial statement
(2) The latest U.S. Corporate Tax Return or your U.S. 1040 Schedule C
(3) An updated work history
(4) Corporations submit annual certificate of condition. Sole Proprietor and Partnerships submit a notarized statement indicating whether there has been any changes in the firm's legal structure, ownership or control.

Sincerely,

Mukiya Baker-Gomez

Mukiya Baker-Gomez, Deputy Commissioner
State Office of Minority and Women Business Assistance

REGIONAL OFFICES

REGION I
MASSACHUSETTS BLDG.
AVENUE OF STATES
WEST SPRINGFIELD, MA 01089
TEL: (413) 739-5600

REGION II
O.E.S. BLDG.
51 MYRTLE STREET
WORCESTER, MA 01608
TEL: (617) 757-2075

REGION III
450 AIKEN STREET
LOWELL, MA 01854
TEL. (617) 454 0303

REGION IV
SALTONSTALL BLDG
100 CAMBRIDGE STREET
BOSTON, MA 02202
TEL (617) 727-3210

REGION V
1213 PURCHASE STREET
NEW BEDFORD, MA 02740
TEL (617) 727-5370

The Commonwealth of Massachusetts
Executive Office of Transportation and Construction
Department of Public Works
Ten Park Plaza, Boston 02116-3973

December 12, 1989

Paul C.K. Lu and Associates
69 Trapelo Road
Belmont, Ma 02178

Attention: Paul C.K. Lu

Dear Mr. Lu:

The Massachusetts Department of Public Works (MDPW) wishes to acknowledge receipt of your MBE certification and US Tax reports. A review of these reports indicates the company is eligible as SIC #8712 as a ARCHITECTURAL SERVICES: LANDSCAPE to be designated as a "Disadvantaged Business Enterprise (DBE)," as set forth in the Surface Transportation and Uniform Relocation Assistance Act of 1987, CFR 49 Part 23, Section 23.5 and Section 3 of the Small Business Act.

The company's designation as a M/DBE will appear in the next MDPW Architect & Engineer's list of DBEs eligible for Federal-Aid Projects.

We appreciate your submitting these documents for our confidential review. If you have any questions or need further assistance, please contact this office at:

93 Worcester Street
Wellesley, Ma 02181
(617)727-5180

With best wishes.

Very truly yours.

Philip E. Fagone, P.E.
Department EEO Coordinator
for
ROBERT H. JOHNSON, P.E.
Chief Engineer

WSO:PEF:eb
c-RHJ
PEF
DC
CA/THT (ME)
SOMWBA (MBG)

PAUL C. K. LU AND ASSOCIATES

134 Beach Street Boston, Massachusetts 02111 (617) 484-4022

AFFIRMATIVE ACTION POLICY STATEMENT

PAUL C. K. LU AND ASSOCIATES accepts as their operating affirmative action policy, the following statement in its entirety: (In accordance with the following applicable laws:

1. Title VII of the Civil Rights Act of 1964 as amended by the Equal Employment Opportunity Act of 1972.
2. Executive Order 11246 as amended by Executive Order 11375.
3. The Equal Pay Act of 1963.
4. The Age Discrimination in Employment Act of 1967.
5. Title 41 Public Contracts and Property Management Chapter 60 Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.
6. Section 503, Rehabilitation Act of 1973.
7. Section 402, Vietnam Era Veterans' Readjustment Act of 1974.
8. Fair Employment Practices Act.
9. Applicable State & Local Laws.

"It is the policy of the firm to assure that no person is discriminated against in any activity or program undertaken by the firm on the grounds of race, color, creed, religious belief, sex, national origin, ancestry, marital status, physical disability or blindness, criminal record, mental disorder, status as a disabled or Vietnam veteran and/or age. These include the following protected classes: Blacks, Spanish-surnamed Americans, Asian Americans, American Indians, Women, and the Handicapped.

In addition, this firm is committed to affirmative action to the extent that the guidelines set out below will be fully executed and implemented in a good faith manner to effectively attempt to provide equal opportunity for all.

1. Objectives. Affirmative action requires positive, aggressive and effective steps to attract job applications from minority groups and women; to hire those who are qualified or who are trainable; to train employees for future advancement; and to advance those who are qualified without regard to the areas listed above. Affirmative action also requires the training and counselling of supervisory and management personnel in the effective supervision and management of all employees with emphasis on the particular problems of minority, handicapped and female employees.

2. Requirements. In order to implement an effective Affirmative Action/Equal Opportunity Compliance Program it is necessary that the problems inherent in minority and female employment be identified and analyzed and the opportunities for the utilization of minority group personnel and women be evaluated and emphasized. The Program, therefore, will provide, in detail, for specific steps to ensure equal employment opportunity keyed to the problems and needs of minorities and females in general and to the particular circumstances of each locality. For the long view, Paul C. K. Lu and Associates hereby resolves that we will continue to direct every reasonable effort toward increasing the number of minorities and women at all levels within our profession.

We recognize that it is, at present, impossible to attract qualified minorities in the quantities required to completely satisfy the need of our whole profession, because of the immense shortage of qualified minorities that exists. However, as a genuine effort toward a proper balance for the short term, we will continue to actively search for firms which are owned or controlled by women and minority persons, and set up joint ventures, or subcontract with them.

3. Evaluation. The Affirmative Action/Equal Opportunity Compliance Program will provide the following on a continuous basis:
   a. An analysis of minority and female employees in all job categories.
   b. An analysis of hiring practices to determine whether the equal employment opportunity is being afforded in all job categories.
   c. An evaluation of recruitment sources as to their effectiveness in referring qualified minorities and women.
   d. An analysis of upgrading, transfer and promotion to determine whether equal employment opportunity is being afforded.
4. Implementation. In order to implement our Affirmative Action/Equal Opportunity Compliance Program, Paul C. K. Lu and Associates shall include the following:
   a. Establish methods to increase the number of minorities and female applicants for employment.

This is to include, but not be limited to:

1) Present sources of job candidates will be urged to refer qualified minorities and women

2) Employment advertising will continue to include a statement reflecting our office status as "An Equal Opportunity Employer M/F". In addition, we will utilize minority and female oriented media as vehicles for recruitment advertising.

3) All open positions will be posted in each office in order to encourage minority and female employees to refer their qualified friends and relatives for job vacancies, where applicable. Promotion from "within" will also be assisted by this publicity.

4) Minority and female students will be sought for inclusion in summer employment programs.

5) We will work closely with minority organizations as a source of obtaining qualified minority applicants of both sexes.

b. Recruit, hire, train and promote for all job classifications without regard to the areas listed in the first paragraph of this statement.

c. Base decisions on employment solely upon the individual's qualifications for the position being filled.

d. Make promotional decisions only on the individual's qualifications as related to the requirements of the position to be filled.

e. Insure that all other personnel action, such as compensation, benefits, transfer, layoffs, returns from layoffs, Company-sponsored training, education, tuition assistance, social and recreational programs, are administered without regard to the areas listed in paragraph one of this statement.

5. Responsibility. With the full support of line management, the Equal Employment Opportunity Officer, Paul C. K. Lu, AIA, ASLA, APA, will be responsible for the administration of the Program as required by the circumstances of this Office. The EEO officer will:

   a. Set goals which are to be significant, measurable, and attainable. These goals should be specific as to planned results.

   b. Identify problem areas by department, location, job classification, etc., and take remedial action.

   c. Conduct periodic reviews of the progress made under the Affirmative Action/Equal Opportunity Compliance Program.

6. Office Coordination. The Office total Program is to be coordinated through the Equal Employment Opportunity Officer.

Paul C. K. Lu and Associates has used an Advisory Committee on an informal basis for some time. The members of the committee are Mr. Paul C. K. Lu, Ms. Miriam Bone, and Ms. Rosalyn Weinstein. The composition of the committee offers us the advantage of having input from a management person, a female professional, and a member of the clerical unit. The scope of this information is most valuable in terms of E.E.O. to offer feedback and potential alteration of our program.

7. The intent of our Affirmative Action/Equal Opportunity Compliance Program is to attempt to realize an employee population which is consistent with the general area population in the Landscape Architect-Site Planner field, it is still evident, however, that the percentage of minorities and women in our field has not increased to any appreciable degree. Paul C. K. Lu and Associates realizes that the attainment of this objective is dependent upon a gradual upgrading of the minority and women situation in the available job market. Paul C. K. Lu and Associates has and will continue to commit itself to assisting consciously in this upgrading effort to implement and accelerate equal opportunity for all employees and applicants for employment. This plan and its policies are expected to achieve for Paul C. K. Lu and Associates the elimination of any discriminatory practices that might exist, and the nurturing of an environment within the firm which promotes and supports equal opportunity and treatment at all areas of the Paul C. K. Lu and Associates organization. Our management at all levels, is required to make every good faith effort to achieve this intent.

Paul C. K. Lu, AIA, ASLA, APA, Principal of Paul C. K. Lu and Associates reiterates the Office policy in the following statement:

I am personally committed to the effective implementation of the Office affirmative action policy and program. Further, I direct all supervisory personnel to carry out their affirmative action responsibilities with the same dispatch and expertise normally applied to their regular job duties.

Paul C. K. Lu
EEO Officer

Paul C. K. Lu
Principal

STANDARD FORM (SF) **255**
Architect-Engineer Related Services for Specific Project

1. Project Name / Location for which Firm is Filing

Ruggles Center Plaza,
Ruggles Station, Roxbury

2a. ***Commerce Business Daily*** Announcement Date, if any

NA

2b. Agency Identification Number, if any:

NA

3. Firm (or Joint-Venture) Name & Address

Paul C. K. Lu and Associates
134 Beach Street, Boston, MA 02111

3a Name, Title & Telephone Number of Principal to Contact

Paul C. K. Lu, AIA, ASLA
617 484-4022

3b Address of office to perform work, if different from Item 3

69 Trapelo Road, Belmont, MA 02178

4. Personnel by Discipline: (List each person only once, by primary function.)

1 Administrative	___ Electrical Engineers	___ Oceanographers	
1 Architects	___ Estimators	2 Planners Urban/Regional	
___ Chemical Engineers	___ Geologists	___ Sanitary Engineers	
___ Civil Engineers	___ Hydrologists	___ Soils Engineers	
___ Construction Inspectors	___ Interior Designers	___ Specification Writers	(** For Paul C. K. Lu &
1 Draftsmen	4 Landscape Architects	___ Structural Engineers	Assoc. only, See 254
___ Ecologists	___ Mechanical Engineers	___ Surveyors	individual forms for others
___ Economists	___ Mining Engineers	___ Transportation Engineers	** 9 Total Personnel

5. If submittal is by JOINT-VENTURE list participating firms and outline specific areas of responsibility (including administrative, technical and financial) for each firm: (Attach SF 254 for each if not on file with Procuring Office.)

N/A

5a. Has this Joint-Venture previously worked together? ☐ yes ☐ no

6. If respondent is not a joint-venture, list outside key Consultants/Associates anticipated for this project (Attach SF 254 for Consultants/Associates listed, if not already on file with the Contracting Office).

Name & Address	Specialty	Worked with Prime before (Yes or No)
Parsons Brinckerhoff Quade and Douglas, Inc. 120 Boylston Street, 4th Floor, Boston, MA 02116	Consultant Engineers	Yes
Stull & Lee, Inc. 38 Chauncy Street, Boston, MA 02111	Urban Design Consultants	Yes
Haley and Aldrich, Inc. 58 Charles Street, Cambridge, MA 02141	Geotechnical Engineering	Yes
Bryant Associates 648 Beacon Street, P.O. Box 38 - Kenmore Station Boston, MA 02215-0038	Surveying	Yes

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

a. Name & Title:
Paul C. K. Lu, AIA, ASLA
Principal

b. Project Assignment:
Project Designer

c. Name of Firm with which associated:
Paul C. K. Lu and Associates

d. Years experience: With This Firm 20 With Other Firms 15

e. Education: Degree(s) / Year / Specialization
Harvard Univ. M.L.A./1967/Landscape Arch & Planning
Kansas St. Univ. M.Arch./1962 & B.Arch./1958-Arch. & Design
Chung-King Univ. M.S. in Architectural Engineering/1954

f. Active Registration: Year First Registered/Discipline
Architecture - 1970 NCARB - 1975
Landscape Architecture - 1968 CLARB - 1976

g. Other Experience and Qualifications relevant to the proposed project:
Broad experience in the areas of master planning, architectural design and landscape design for major community and recreational development projects, major campus planning projects, com'l industrial and institutional projects. Principal-in-Charge of memorial swimming pool, bath house and 16-acre urban park in Lowell, MA: Itek Corp, master plan and headquarters in Lexington, MA; master plan for Digital Equipment Corp. laboratory complex in Hudson, MA; master plan for LaRomana Industrial Free Zone, Dominican Republic. Project Director and Manager, Planning & Design Coordinator for the Hammocks, a 1100-acre new community, and Kendale Gable a 640-acre new community, both in Dade County, FL: McLean Gardens, a PUD office, retail & housing complex in Washington, DC; Wayne State Univ. master plan in Detroit, MI: Tulane Univ. master plan, New Orelans, LA; Mayo Clinic master plan, Rochester, MN; Wilmington Medical Ctr, Wilmington, DL Beltsville Agricultural Research Center, Beltsville, MD. Mr. Lu is a receipient of international & national design awards.

a. Name & Title:
Christian Brown
Associate

b. Project Assignment:
Project Manager

c. Name of Firm with which associated:
Paul C. K. Lu and Associates

d. Years experience: With This Firm 5 With Other Firms 5

e. Education: Degree(s) / Years / Specialization
Univ. of Mass. B.S./Environmental Design/1978

f Active Registration: Year First Registered/Discipline

g. Other Experience and Qualifications relevant to the proposed project:
Served as project manager on a vast array of open space projects since joining the firm. Relevant experience includes: design of passive and active open space in downtowns/CBDs, streetscape revitalization, urban design, master planning, public housing, and transportation planning. Specific projects include: Winchester Center Urban Design; Fitchburg Hi-Tech Center; Moore Square Area Improvements, Raleigh, NC; West Broadway Public Housing Renewal Project, Boston, MA; Concord Playfields Improvement Program; Spicket River Park, Lawrence, MA; Natick Common and Upper Common Rehabilitation, Fitchburg, MA.

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

a. Name & Title: Roberto C. Garcia	a. Name & Title: Gary M. Fishbeck Associate
b. Project Assignment: Project Landscape Architect	b. Project Assignment: Ass. Project Manager / Project Landscape Architect
c. Name of Firm with which associated: Paul C. K. Lu and Associates	c. Name of Firm with which associated: Paul C. K. Lu and Associates
d. Years experience: With This Firm 2 With Other Firms ___	d. Years experience: With This Firm 1 With Other Firms 7
e. Education: Degree(s) / Year / Specialization Texas A & M Univ. B.S,/1984 Landscape Architecture Harvard University, M.L.A./1989/Landscape Architecture	e. Education: Degree(s) / Years / Specialization Univ. of Minnesota Bach. Landscape Arch./1980/Land. Arch. Harvard Univ. M.L.A./1982/Landscape Arch.
f. Active Registration: Year First Registered/Discipline	f. Active Registration: Year First Registered/Discipline Landscape Architecture - 1988 NCLARB (Rhode Island)
g. Other Experience and Qualifications relevant to the proposed project: Mr. Garcia was the Project Planner or Team Leader for the following projects which required pedestrian and/or park improvements: Central Transit Transfer Facility, Greenville, SC; McBee and Washington Street landscape improvements, Greenville, SC; University of Massachusetts Comprehensive Facilities Plan, Boston, MA; Fort Buss Installation Design Guide, West Texas; and Trinity Lakes Park Master Plan, Dallas, TX.	g. Other Experience and Qualifications relevant to the proposed project: Mr. Fishbeck is specialized in construction and documentation and has served as Project landscape architect for a great variety of landscape architectural and urban design projects, both in the public and private sectors. Specific projects include: Three Nationwide Plaza, Columbus; Westwood Executive Center, Westwood; Colgate-Palmolive Urban Design Guidelines, NJ; Market Square, Manchester, NH; Buffalo Fountain Plaza, Buffalo, NY; Crown Center Master Plan, Kansas City; University of Buffalo, Buffalo; Back Bay Towers, Portland, ME.

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

a. Name & Title: Kit Har Ivy Ng Architect	a. Name & Title: Carolyn Cooney - Registered Landscape Architect
b. Project Assignment: Production Chief	b. Project Assignment. Landscape architect/construction documentation
c. Name of Firm with which associated: Paul C. K. Lu and Associates	c. Name of Firm with which associated Paul C. K. Lu and Associates
d. Years experience: With This Firm 2 With Other Firms 1	d. Years experience. With This Firm 5 With Other Firms 10
e. Education: Degree(s) / Year / Specialization Univ. of New South Wales B.Architecture/1987, Honors	e. Education: Degree(s) / Years / Specialization Univ. of Penn., M.L.A. Landscape Architect, 1977 Cornell Univ., B.A. Philosophy 1967 U.C. at Santa Cruz, B.A. with honors 1981
f. Active Registration: Year First Registered/Discipline	f. Active Registration: Year First Registered/Discipline Reg. Landscape Architect Mass. No. 729
g Other Experience and Qualifications relevant to the proposed project: Worked on a variety of urban design and open space projects in the U.S., Asia, and Australia. Project experience includes: Lynn State Park Site Design, Lynn, MA; Ramsey Park Design and Construction, Boston, MA; Belmont Shopping Center Parking Design, Belmont, MA; Nut Island Site Improvements, Quincy, MA; Whitsunday Holiday Resort, Queensland, Australia; Parramatta Office Complex, Parramatta, New South Wales; Melaka Sports Center, Malaysia; and Supreme Office Complex, Melaka, Malaysia.	g. Other Experience and Qualifications relevant to the proposed project Broad experience in the areas of master planning and landscape architecture with particular professional specialization in park design and rehabilitation. Worcester Common, Worcester, MA., Natick Common Rehabilitation, Natick, MA. Other experience includes design for and project manager for Four Season Hotel/Park Plaza Redevelopment, Boston, MA., La Chaminade Conference Center, Santa Cruz, California.

9. All work by firms or joint-venture members currently being performed directly for Federal agencies.

a. Project Name & Location	b. Nature of Firm's Responsibility	c. Agency (Responsible Office) Name & Address	d. Percent complete	e. Estimated Cost (In Thousands)	
				Entire Project	Work for which firm is responsible
None for Paul C. K. Lu and Associates					

10. Use this space to provide any additional information or description of resources (including any [illegible]) for the proposed project.

Paul C.K. Lu & Associates (MBE)

The firm of Paul C.K. Lu & Associates practices landscape architecture, urban design, and planning with a special emphasis on urban open space planning, design, and implementation utilizing a multi-disciplinary team approach. In the twenty year (20) history of the firm over 80% of the projects have been in the public sector. Other relevant qualifications include :

* The firm has been awarded 15 National & International Planning & Design Awards

* Built and Current Urban Area Projects - Kingston - Bedford Development Parcel (Boston); Washington Street Reconstruction (Boston); Ecumenical Plaza (Lowell,MA); Ramsey Park (Roxbury); Town of Winchester CBD Renewal; Lowell Downtown Improvements; Wakefield Downtown Improvements; Framingham Downtown Improvements; West Broadway Housing Renewal, Phase I (Boston); Dorchester Park (Dorchester); Haymarket MBTA Station Improvements; Fayettville Transit Mall (North Carolina); Central Transit Transfer Facility (South Carolina);

* The firm has extensive design experience in project area including Ramsey Park, Flaherty Playground, Dorchester Park and Mr. Lu was a project manager on the Southwest Corridor Project while at another firm.

* Extensive Public Agency Experience - clients have included Mass. Department of Public Works, MBTA, BRA, Boston Public Facilities Department, DCPO, Massport, DEM, Boston Parks & Recreation Department, and a number of local towns.

* The Firm is a 100% Minority Owned Business Enterprise

The project design team of Paul C.K. Lu & Associates, Parson's Brinckerhoff, Stull & Lee, Haley & Aldrich, and Bryant Associates is a solid Boston based team of professionals (see also attachments for each firm).

Parson's Brickerhoff Quade & Douglass, Inc.:

* 100 year old national engineering firm, notable projects include:
  - o North Station Transportation Improvement Project
  - o Reconstruction of Marginal Street (Chelsea, MA)
  - o 75 State Street Development Project

Stull & Lee, Inc. (MBE)

* Urban Design, Architecture, Planning Expertise, notable projects include:
  - o Southwest Corridor Transportation Project
  - o Ruggles Street Transit Station
  - o Dudley Station Area Improvement

Haley & Aldrich, Inc.

* A leading professional firm in geotechnical & hydrological investigations with extensive experience in the project area.

Bryant Associates (MBE)

* Survey professionals based in Boston; experienced and familiar with the project area.

We look forward to the opportunity to present our qualifications in person.

11. The foregoing is a statement of facts.

Signature: _____ Typed Name and Title: Paul C. K. Lu, Principal

Date: March 8, 1990

STANDARD FORM (SF)

254

Architect-Engineer and Related Services Questionnaire

Paul C. K. Lu and Associates
69 Trapelo Road
Belmont, Massachusetts 02178

134 Beach Street
Boston, Massachusetts 02111

Established: 1970

January 1, 1990

4. Specify type of ownership *and* check below, if applicable.
Minority Business Enterprise

- [x] A. Small Business
- [x] B. Small Disadvantaged Business
- [ ] C. Woman-owned Business

1a. Submittal is for [x] Parent Company [ ] Branch or Subsidiary Office

5. Name of Parent Company, if any:
N/A

5a. Former Parent Company Name(s), if any, and Year(s) Established:
N/A

6. Names of not more than Two Principals to Contact: Title / Telephone
1) Paul C. K. Lu AIA, ASLA, APA 617-484-4022
2)

7. Present Offices: City / State / Telephone / No. Personnel Each Office

Paul C. K. Lu and Associates, Landscape Architects, Urban Designers, Planners
69 Trapelo Road
Belmont, Massachusetts 02178

134 Beach Street
Boston, Massachusetts 02111

Phone: 617-484-4022

7a. Total Personnel 9

8. Personnel by Discipline: *(List each person only once, by primary function.)*

1 Administrative	___ Electrical Engineers	___ Oceanographers	___
1 Architects	___ Estimators	2 Planners: Urban/Regional	___
___ Chemical Engineers	___ Geologists	___ Sanitary Engineers	___
___ Civil Engineers	___ Hydrologists	___ Soils Engineers	___
___ Construction Inspectors	___ Interior Designers	___ Specification Writers	___
1 Draftsmen	4 Landscape Architects	___ Structural Engineers	___
___ Ecologists	___ Mechanical Engineers	___ Surveyors	___
___ Economists	___ Mining Engineers	___ Transportation Engineers	___

9. Summary of Professional Services Fees Received: (Insert index number)

	Last 5 Years (most recent year first)				
	19___	19___	19___	19___	19___
Direct Federal contract work, including overseas	___	___	___	___	___
All other domestic work	___	___	___	___	___
All other foreign work*	___	___	___	N/A	___

*Firms interested in foreign work, but without such experience, check here: [ ].

Ranges of Professional Services Fees

INDEX
1. Less than $100,000
2. $100,000 to $250,000
3. $250,000 to $500,000
4. $500,000 to $1 million
5. $1 million to $2 million
6. $2 million to $5 million
7. $5 million to $10 million
8. $10 million or greater

Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)
1)			11)			21)		
2)			12)			22)		
3)			13)			23)		
4)			14)			24)		
5)			15)			25)		
6)			16)			26)		
7)			17)			27)		
8)			18)			28)		
9)			19)			29)		
10)			20)			30)		

11. Project Examples, Last 5 Years

Profile Code	"P", "C", "JV", or "IE"	Project Name and Location	Owner Name and Address	Cost of Work (in thousands)	Completion Date (Actual or Estimated)
059	C	1 Reconstruction of Washington Street (Dudley St. to Chinatown) Boston, Mass.	Mr. Peter Calcaterra Mass Bay Transportation Authority 10 Park Plaza, Boston, MA 02116	$ 10,000	1990
059	C	2 MBTA Park, Ride & Station Improvement Programs Boston, Mass.	Mr. Charles B. Steward Mass Bay Transportation Authority Ten Park Plaza, Boston, MA 02116	6,000	1991 (Estimated
110	P	3 Lowell Historic CBD Streetscape Improvements Lowell, Mass.	Mr. Jack Travers, Director of Program Dept. of Planning & Development City Hall, Lowell, Mass.	1,600	1985
110	C	4 Fayetteville Transit Mall Old Fayetteville Common Fayetteville, North Carolina	Mr. John Smith, City Manager 234 Green Street Fayetteville, N.C. 28301	3,500	1985
059	P	5 Columbia River Front Park Phase I Construction Columbia, S.C.	Honorable Mayor Patton Adams City of Columbia City Hall, Columbia, S.C. 29217	1,750	1984
088	P	6 LoPresti Park Redesign 6 Acre Waterfront Park Boston, Mass.	Mr. Steve Rusteika Public Facilities Department 26 Court Street, Boston, Mass. 02108	2,200	1989
039	C	7 Greenville Central Transit Transfer Facilities Greenville, South Carolina	Mr. Dan Boozer, Director Greenville Transit Authorities Greenville, South Carolina	3,500	1989

017	C	8 Hyattsville Downtown Streetscape Design Hyattsville, Maryland	Honorable Mayor Thomas Bass City Hall City of Hyattsville, Maryland	N/A (Master Plan)	1988
079	C	9 University of Mass (Boston) Comprehensive Facilities Plan Boston, Mass.	Mr. Anthony Blacketh Div. of Capitol Planning and Operations One Ashburton Place, Boston, MA 02109	N/A (Master Plan)	1988
110	C	10 Railroad Square Improvements Pepperell, Mass.	Mr. Robert Halpin, Executive Secretary Board of Selectmen Town Hall, Pepperell, MA 01463	500±	On Going
088	P	11 Ramsey Park Improvement Renovation For 5 Acre Urban Park	Mr. Stan Ivan Boston Parks and Recreation	500	1988
050	C	12 West Broadway Housing Renewal Project West Broadway, South Boston	Mr. Michael Jacobs Boston Housing Authority Chauncey Street, Boston, Mass.	2,750	1987
059	C	13 Cape Cod Rail Trail Extension Eastham, Wellfleet, Mass.	Mr. Daniel O'Brien, Project Manager Dept. of Environmental Management 225 Friend Street, Boston, MA 02114	1,000	1987
059	P	14 Lynn Heritage State Park Visitors Center Site Improvements Lynn, Mass.	Mr. James Baecker Dept. of Environmental Management (DEM) 225 Friend St., Boston,MA 02114	500	1990
059	P	15 Wakefield C.B.D. Streetscape Wakefield, Mass.	Director Dept. of Public Works Wakefield, Mass.	1,500 (Estimate)	1990
059	P	16 Parking Garage Gateway Plaza Lowell, Mass.	Director of Planning City of Lowell Lowell, Mass.	700	1990
059	P	17 Moore Square Historic District Streetscape Raleigh, N.C.	Mr. Wayne Backer Project Coordinator City of Raleigh, City Hall, Raleigh, N.C.	2,300	1986
110	P	18 Benco Shopping District Streetscape Improvement Washington, D.C.	Mr. Eduardo Baranano Office of Business and Economic Development Washington,D.C.	3,500 (Estimate)	1990
059	P	19 Various Tree Planting Projects Throughout City of Boston	Linda Cook, Project Manager Boston Public Facilities Department	500	1986

088	P	Town Landscape Architect For Various Projects Watertown, Mass.	Director of Planning Town Hall, Watertown, Mass.	On-Going	Annual Basis
059	P	21 McBee St./Washington St/W. North St. Streetscape & Parking Improvement Greenville, South Carolina	Mr. Don Fogle City Chief Engineer City of Greenville, Greenville, S.C.	1,000	1988
059	P	22 Historic Market Square Planning and Design Fayetteville, N.C.	Mr. John Smith, City Manager Office of City Manager Fayetteville, N.C. 28301	1,000 (Estimate)	1992
059	C	23 Lowell Transit Facility Lowell, Mass.	Lowell Regional Transit Authority Lowell, Mass.	700	1985
059	C	24 Master Landscape Planning and Design For Portion of Route 2 Concord, Mass.	Mass Department of Public Works Boston, Mass.	1,500	1983
110	JV	25 Central Business District Streetscape Improvement Design & Planning Hot Springs, Arkansas	Mr. Mark Fleischner, Chairman Central Business Improvement District Assoc., Hot Springs, Arkansas 71902	1,000	1987
059	P	26 Logan International Airport Beautification Program, Terminal E Boston, Mass.	Mr. Alex Seid Mass. Port Authority 10 Park Plaza, Boston, Mass.	350	1986
059	P	27 Walden Greenway 350 Acre Greenway Charlotte, N.C.	Mr. Kenneth Hoffman, P.E. Chief Engineer, Mecklenburg County,NC County Adm. Building, Charlotte, NC	1,500	1987
059	P	28 Logan International Airport North Service Area Boston, Mass.	Mr. Alex Seid Mass Port Authority 10 Park Plaza, Boston, Mass.	160	1990
110	P	29 Winchester Downtown Urban Design/ Pedestrian Systems Winchester, Mass.	Mr. John Ciarcia Town Engineer Town Hall, Winchester, Mass. 01890	1,500	1985
110	P	30 Fayetteville Downtown Linkage Fayetteville, N.C.	Ms. Susan Cheek,Asst. City Manager City Hall Fayetteville, N.C. 28301	1,500	1990

12. The foregoing is a statement of facts

Signature: _____ Typed Name and Title: Paul C. K. Lu ASLA, AIA, APA

Date: January 1, 1990

STANDARD FORM (SF)

254

Architect-Engineer and Related Services Questionnaire

1. Firm Name/Business Address:

Parsons Brinckerhoff Quade & Douglas, Inc.
120 Boylston Street
Boston, MA 02116

2. Year Established: 1885

3. Date Prepared: September 1989

4. Specify type of ownership *and* check below, if applicable.
Privately-owned Corporation

- A. Small Business
- B. Small Disadvantaged Business
- C. Woman-owned Business

1a. Submittal is for ☐ Parent Company ☒ Branch or Subsidiary Office

5. Name of Parent Company, if any:
Parsons Brinckerhoff Inc.
One Penn Plaza, 250 W. 34th Street
New York, New York 10119

5a. Former Parent Company Name(s), if any, and Year(s) Established:
William Barclay Parsons/1885
Barclay Parsons & Klapp/1910
Parsons Klapp Brinckerhoff & Douglas/1918
Parsons Brinckerhoff Quade & Douglas/1961

6. Names of not more than Two Principals to Contact: Title/Telephone
1) **Morris S. Levy, Senior Vice President, (617) 426-7330**
2) **Anthony C. Centore, Manager of Business Development** (617) 426-7330

7. Present Offices: City/State/Telephone/No. Personnel Each Office

7a. Total Personnel 2553

Albuquerque, NM	(505) 265-8431	9	Honolulu, HI	(808) 531-7094	27	Pittsburgh, PA	(412) 281-9900	13
Atlanta, GA	(404) 237-2155	258	Houston, TX	(713) 497-2392	49	Sacramento, CA	(916) 925-5535	23
Austin, TX	(512) 328-1012	21	Jersey City, NJ	(201) 623-4466	12	San Bernardino, CA	(714) 889-4878	26
Baltimore, MD	(301) 727-5050	12	Los Angeles, CA	(213) 612-7035	58	San Francisco, CA	(415) 474-4500	122
Boston, MA	(617) 426-7330	110	Louisville, KY	(502) 499-1533	9	Seattle, WA	(206) 624-3571	47
Chicago, IL	(312) 782-8150	60	Midvale, UT	(801) 255-8942	6	Tampa, FL	(813) 874-5300	41
Columbus, OH	(614) 451-9915	8	New Orleans, LA	(504) 836-6595	48	Tempe, AZ	(602) 966-8295	63
Dallas, TX	(713) 497-2392	5	New York, NY	(212) 465-5000	483	Tucson, AZ	(602) 882-6424	40
Denver, CO	(303) 297-0900	31	Norfolk, VA	(804) 466-1732	17	Washington, DC	(202) 662-7536	9
East Hartford, CT	(203) 528-1158	22	Orange, CA	(714) 973-4880	36	West Trenton, NJ	(609) 882-4300	76
Herndon, VA	(703) 478-0070	288	Philadelphia, PA	(215) 735-1457	14	International	(212) 465-5000	510

8. Personnel by Discipline: *(List each person only once, by primary function.)*
(110) = Boston Staff

- 260 Administrative **(7)**
- 68 Architects
- 2 Chemical Engineers
- 367 Civil Engineers **(20)**
- 70 Construction Inspectors
- 263 Draftsmen **(16)**
- 1 Ecologists
- 10 Economists
- 123 Electrical Engineers **(1)**
- 24 Estimators
- 17 Geologists **(1)**
- 16 Hydrologists **(1)**
- 1 Interior Designers
- 3 Landscape Architects
- 181 Mechanical Engineers **(3)**
- 43 Mining Engineers
- 14 Marine Engineers **(2)**
- 32 Schedulers/Project Controllers **(1)**
- 1 Oceanographers
- 64 Planners: Urban/Regional **(2)**
- 6 Sanitary Engineers **(2)**
- 34 Soils Engineers **(8)**
- 11 Specification Writers **(1)**
- 248 Structural Engineers **(29)**
- 22 Surveyors **(1)**
- 102 Transportation Engineers **(5)**
- 34 Accountants
- 72 CADD/Computer Specialists **(1)**
- 44 Construction Managers
- 16 Environmental Scientists **(1)**
- 4 Nuclear/Hazardous Waste
- 18 Railroad Engineers **(2)**
- 88 Support Services
- 177 Technical Support **(4)**
- 42 Technical Writers/Designers
- 75 Word Processors **(2)**

9. Summary of Professional Services Fees

Received: (Insert index number)	Last 5 Years (most recent year first) 19 87	19 86	19 85	19 84	19 83
Direct Federal contract work, including overseas	6	6	6	6	5
All other domestic work	8	8	8	8	8
All other foreign work*	6	6	6	6	6

*Firms interested in foreign work, but without such experience, check here: ☐

Ranges of Professional Services Fees
INDEX. 1 Less than $100,000
2. $100,000 to $250,000
3 $250,000 to $500,000
4 $500,000 to $1 million
5. $1 million to $2 million
6 $2 million to $5 million
7. $5 million to $10 million
8 $10 million or greater

10. Profile of Firm's Project Experience, Last 5 Years

Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)
1) **011**	**125**	**25713**	11)			21)		
2) **021**	**68**	**49421**	12)			22)		
3) **033**	**68**	**7969**	13)			23)		
4) **046**	**145**	**65003**	14)			24)		
5) **078**	**67**	**12812**	15)			25)		
6) **085**	**1**	**3**	16)			26)		
7) **089**	**22**	**5152**	17)			27)		
8) **109**	**63**	**26818**	18)			28)		
9) **Others**	**1242**	**432536**	19)			29)		
10)			20)			30)		

11. Project Examples, Last 5 Years

Profile Code	"P", "C", "JV", or "IE"	Project Name and Location	Owner Name and Address	Cost of Work (in thousands)	Completion Date (Actual or Estimated)
011	**P**	1 **Complex Bridge Inspection Safety Inspection and Rating Eastern CT**	**Connecticut Department of Transportation Wethersfield, CT**	**2,448 (fee)**	**1990**
011/ 046	**P**	2 **Morgan Street Highway Engineering and Construction Plans LaGrange, GA**	**Georgia Department of Transportation Atlanta, GA**	**5,800 (fee)**	**1988**
011/ 046/ 089	**P**	3 **New Jersey Turnpike Widening Final Design, Utility Relocation and Agency Coordination Essex and Hudson Counties, NJ**	**New Jersey Turnpike Authority New Brunswick, NJ**	**300,000**	**1989**
021	**P**	4 **I-279/I-579 Project Management Services during Construction Pittsburgh, PA**	**Pennsylvania Department of Transportation Allegheny District 11-0 Pittsburgh, PA**	**400,000**	**1988**
021	**P**	5 **Orlando-Orange County Expressway Construction Engineering and Inspection Orlando, FL**	**Orlando-Orange County Expressway Authority Orlando, FL**	**28,000**	**1989**
021	**P**	6 **Brooklyn-Queens Expressway/Gowanus Merge Constructibility Review New York, NY**	**New York State Department of Transportation New York, NY**	**150 (fee)**	**1987**
033	**P**	7 **I-95 High Occupancy Vehicle Lanes Turnkey Environmental Analysis of Extension Fairfax and Prince William Counties, VA**	**Virginia Department of Transportation Richmond, VA**	**115,000**	**1988**

033/ 046	P	8 Horry County EIS and Preliminary and Final Design Myrtle Beach, SC	South Carolina Department of Highways Columbia, SC	105,000	1989
033/ 046	P	9 KY 61/Greensburg-Hodgenville Road Environmental Sudies and Design of Highway Green County, KY	Commonwealth of Kentucky, Transportation Cabinet, Department of Highways Frankfort, KY	3,000	1987
033/ 078	P	10 Richmond Parkway Alternatives Analysis and Alignment Study Staten Island, NY	New York State Department of Transportation New York, NY	201 (fee)	1988
046	P	11 I-94/Calumet Expressway Final Design Documents for Reconstruction Cook County, IL	Illinois Department of Transportation Schaumburg, IL	50,000	1988
046	P	12 Aviation Parkway Final Design, Right-of-Way Mapping and Project Management Tucson, AZ	Arizona Department of Transportation Phoenix, AZ	164,000	1988
046	P	13 Tangerine Road Location and Design Services Tucson, AZ	Arizona Department of Transportation Phoenix, AZ	668 (fee)	1988
046	P	14 Intercounty Connector Final Plans and Specifications for Divided Highway and Interchanges Shady Grove, MD	Montgomery County Department of Transportation Rockville, MD	60,000	1991
046	JV	15 Interstate Route H-3 Design Management Oahu, HI	Hawaii Department of Transportation Honolulu, HI	750,000	1988
046	P	16 North-South Tollway Contract Documents and Final Design of Interchange DuPage County, IL	Illinois State Toll Highway Authority Oak Brook, IL	13,000	1988
046	P	17 NM 509 Section B Final Design of Rural Highway McKinley County, NM	New Mexico Department of Transportation Sante Fe, NM	7,500	1987
046	P	18 Super Streets Demonstration/Beach Boulevard Conceptual Engineering and Environmental, Economic & Financial Plans Orange County, CA	Orange County Transportation District Santa Ana, CA	170 (fee)	1986
046	JV	19 Southwest Freeway (U.S. 59) Design of Two Transitway Bridges Houston, TX	County of Harris Harris County, TX	543 (fee)	1987

046	C	20 North I-25 Corridor Study Transportation Study and Planning Denver - Colorado Springs, CO	Colorado Department of Highways Denver, CO	217 (fee)	1986
046	P	21 Everett Homeport Access Facilities Site Selection, Design and Construction Services Everett Navy Base, WA	City of Everett Everett, WA	1,299 (fee)	1991
046/ 078	P	22 South Crosstown Expressway Extension Conceptual Design, Traffic Engineering and Environmental Feasibility Study Tampa, FL	Tampa-Hillsborough County Expressway Authority Tampa, FL	280 (fee)	1988
046/ 085	P	23 Route I-80 Improvements Final Design Morris County, NJ	New Jersey Department of Transportation Trenton, NJ	7,139 (fee)	1990
046/ 089	P	24 I-93 Reconstruction Widening and Overlay Manchester, NH	State of New Hampshire Concord, NH	8,500	1989
046/ 109	JV	25 I-90/I-93 Central Artery and Third Harbor Tunnel Management Consultant Services Boston, MA	Massachusetts Department of Public Works Boston, MA	3,200,000	1997
078	P	26 Yuma Corridor Study Transportation Planning and Highway Design Yuma, AZ	Arizona Department of Transportation Phoenix, AZ	250 (fee)	1988
078/ 046	P	27 Athens Route 50 Relocation/Upgrading Alignment and Environmental Studies Athens County, OH	Ohio Department of Transportation Marietta, OH	105,000	1988
078/ 046	P	28 Golden Isles Parkway Highway Location Study and Cost Estimate Perry - Brunswick, GA	Georgia Department of Transportation Atlanta, GA	238,000	1986
109	P	29 I-70 Glenwood Canyon Tunnels Design and Construction Management Glenwood Canyon, CO	Colorado Department of Highways District B Glenwood Springs, CO	84,000	1992
109	P	30 Cumberland Gap Highway Tunnels Design Services Cumberland Gap National Park, KY-TN	U.S. Department of Transportation Federal Highway Administration Eastern District, Federal Division Arlington, VA	185,000	1992

12. The foregoing is a statement of facts

Signature: _____ Typed Name and Title: Seymour S. Greenfield, Chairman of PB Inc.

Date: September 30, 1989

Standard Form 254 July 1975
Prescribed by GSA Fed. Proc. Reg. (41 CFR) 1-16.802)

STANDARD FORM (SF)

254

Architect-Engineer and Related Services Questionnaire

STULL AND LEE, INCORPORATED
38 Chauncy Street, Suite 1100
Boston, Massachusetts 02111

Established: 1966

5 February 1990

4. Specify type of ownership *and* check below, if applicable.

- [ ] A. Small Business
- [X] B. Small Disadvantaged Business
- [ ] C. Woman-owned Business

1a. Submittal is for ☑ Parent Company ☐ Branch or Subsidiary Office

5. Name of Parent Company, if any:

N/A

5a. Former Parent Company Name(s), if any, and Year(s) Established:

STULL ASSOCIATES, INCORPORATED - 1966

6. Names of not more than Two Principals to Contact: Title / Telephone

1) Donald L. Stull, FAIA, President (617) 426-0406
2) M. David Lee, AIA, Vice-President (617) 426-0406

7. Present Offices: City / State / Telephone / No. Personnel Each Office

BOSTON, MASSACHUSETTS

(617) 426-0406

7a. Total Personnel 38

8. Personnel by Discipline: *(List each person only once, by primary function.)*

6 Administrative	___ Electrical Engineers	___ Oceanographers	1	Cost Engineer
13 Architects	___ Estimators	4 Planners: Urban/Regional	___	
___ Chemical Engineers	___ Geologists	___ Sanitary Engineers	___	
___ Civil Engineers	___ Hydrologists	___ Soils Engineers	___	
3 Construction Inspectors	___ Interior Designers	___ Specification Writers	___	
11 Draftsmen	___ Landscape Architects	___ Structural Engineers	___	
___ Ecologists	___ Mechanical Engineers	___ Surveyors		
___ Economists	___ Mining Engineers	___ Transportation Engineers	38	Total Personnel

9. Summary of Professional Services Fees Received: (Insert index number)

	Last 5 Years (most recent year first)				
	19 89	19 88	19 87	19 86	19 85
Direct Federal contract work, including overseas	1	1	1	2	2
All other domestic work	6	6	6	5	4
All other foreign work*	-0-	-0-	-0-	-0-	-0-

*Firms interested in foreign work, but without such experience, check here: ☑

Ranges of Professional Services Fees

INDEX
1. Less than $100,000
2. $100,000 to $250,000
3. $250,000 to $500,000
4. $500,000 to $1 million
5. $1 million to $2 million
6. $2 million to $5 million
7. $5 million to $10 million
8. $10 million or greater

10. Profile of Firm's Project Experience, Last 5 Years

Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)
1) 006	3	161	11) 046	1	610	21) 079	3	624
2) 008	2	1,371	12) 047	2	82	22) 082	1	40
3) 010	1	778	13) 048	3	643	23) 084	6	1,501
4) 017	8	1,957	14) 049	1	814 (est.)	24) 087	12	3,615
5) 019	1	1,273	15) 050	9	2,341	25) 089	20	4,728
6) 027	4	2,593	16) 052	2	716	26) 110	11	2,180
7) 029	5	2,323	17) 055	6	719	27) 113	2	350
8) 035	3	790	18) 060	2	1,370	28) 115	1	338
9) 039	4	2,628	19) 072	9	2,279	29) 117	4	261
10) 042	1	676	20) 078	15	1,920	30) 201	6	473

11. Project Examples, Last 5 Years

Profile Code	"P", "C", "JV", or "IE"	Project Name and Location	Owner Name and Address	Cost of Work (in thousands)	Completion Date (Actual or Estimated)
006 113	P	1 North Service Area Design Guidelines Logan International Airport East Boston, MA	MASSPORT Logan International Airport East Boston, MA 02128 (Nadine Jones, Aviation Planner)	45	1987
008 019 027 029 055 060	P	2 Roxbury Community College Boston, MA	Roxbury Community College 1234 Columbus Avenue Boston, MA 02127 (Mr. Howard Medlar, Dir. of Facilities)	33,500	1987
010 027	P	3 Northeastern University Opera House Dormitory Boston, MA	Northeastern University 26 Tavern Road Boston, MA 02115 (Mr. Cliff Fralen, Dir. of Physical Plant)	20,000	1991 (est.)
017 072 087	P	4 South Station Headhouse Boston, MA	Beacon South Station Associates 50 Rowes Wharf Boston, MA 02110 (Mr. Robert Flack, Project Manager)	15,000	1989
047 087	P	5 Yarmouth Street Ventilation Shaft Boston, MA	Massachusetts Bay Transportation Authority 10 Park Plaza Boston, MA 02116	200	1985
017 038 050 110	P	6 Biscayne Bay Apartments Miami, FL	Cruz Development Corporation 1 John Eliot Square Boston, MA 02119 (Mr. John Cruz)	27,000	1989
046 078	P	7 Central Artery Boston, MA	Bechtel/Parsons Brinckerhoff One South Station Boston, MA 02110	N/A	2000

047 050 089	P	The Cox Building Mattapan, MA	Cruz Construction Company 1 John Eliot Square Boston, MA 02119	1,700	1985
029 048 060	P	9 Allied Health Facility Los Angeles, CA	Charles Drew Postgraduate Medical School 1621 Ea. 120th Street Los Angeles, CA	1,800	1985
050 089	P	10 Chad Brown Admiral Terrace Modernization Project Providence, RI	Providence Housing Authority 100 Broad Street Providence, RI 02903	10,000	1989
017 039 052 110	P	11 Harbor Gateway Boston, MA	Meredith and Grew 160 Federal Street Boston, MA 02110 (Mr. Brian Fallon, Sr. Vice-President)	25,000	1991 (Est.)
055	P	12 Bank of Boston (Branch Office - 3 Center Plaza) Boston, MA	Bank of Boston Architecture & Construction Department Box 2016 (O.F.C.-8-12) Boston, MA 02106	500	1987
008 029 089 110 201	P	13 National Center of Afro-American Artists Museum of Fine Arts Roxbury, MA	Boston Redevelopment Authority 1 City Hall Square Boston, MA 02201	30,000	1988
039 072 110	P	14 Mass Water Resource Authority (Parcel 18) Boston, MA	Metropolitan Structures 200 State Street Boston, MA 02109	20,000	1991
078 110	P	15 Miami Overtown/Park West Master Plan Miami, Florida	City of Miami Department of Development 300 Biscayne Boulevard Way, Suite 400 Miami, FL 33132	30,000	1987
048 079	P	16 Kaehler Memorial Primary Care Center Falmouth, MA (Otis ANG Base)	U.S. Coast Guard 408 Atlantic Avenue Boston, MA 02210	3,400	1986
082	P	17 Roxbury Post Office Roxbury, MA	U.S. Postal Service Facilities Service Office 1 New England Executive Park Burlington, MA 01803	5,800	1991 (est.)
027 029 035 084 089	P	18 Bay State Correctional Center Norfolk, MA	Division of Capital Planning & Operations One Ashburton Place Boston, MA	8,600	1990
050 089	P	19 Granite #5 Roxbury, MA	Longbay Management Company 351 Massachusetts Avenue Boston, MA	7,200	1989

078 110 201	P	Parcel 18 / Ruggles Center Boston, MA	Metropolitan Structures 200 State Street Boston,MA 02109	120,000 (Est.)	1989
115	P	21 East Greenwich Water Treatment Facility East Greenwich, RI	Tighe and Bond 50 Payson Avenue East Hampton, MA	8,000	1985
117	P	22 Newmarket Industrial District Plan Boston, MA	Economic Development & Industrial Corp. of Boston 38 Chauncy Street, Boston, MA 02111	N/A	1988
035 201	P	23 Boston Arena Feasibility Study Boston, MA	Howard Needles Tammen & Bergendoff Suite 4200, Prudential Center Boston, MA	N/A	1985
087 110	P	24 Ruggles Street Transit Station Boston, MA	Massachusetts Bay Transportation Authority 10 Park Plaza Boston, MA 02116	19,000	1986
017 055 072 089	P	25 185 State Street Boston, MA	Coolidge Bank & Trust 75 Arlington Street Boston, MA 02116	1,900	1990
048 055	P	26 Judge Baker Childrens Center (Camille Cosby Wing) Boston, MA	Judge Baker Childrens Center 295 Longwood Avenue Boston, MA	865	1987
087 089	P	27 New York City Rapid Transit Station Modernization New York, New York	New York Transit Authority 370 Jay Street Brooklyn, MA 11201	15,000	1987
046 078 079 087	JV	28 Southwest Corridor Urban Design and Architectural Coordination Boston, MA	Massachusetts Bay Transportation Authority 10 Park Plaza Boston, MA 02116	800,000	1986
017	P	29 Store 24 Mattapan, MA	Liberty Trust (Store 24) 184 Riverview Avenue Waltham, MA 02254	1,300 (est.)	1990
078 110	P	30 Kansas City Urban Design Kansas City, Missouri	Mr. James I. Threatt Assistant City Manager Kansas City, MI 64106	98 (anticipated fee)	N/A

12. The foregoing is a statement of facts

Signature: _____ Typed Name and Title: Donald I. Stull, FAIA, President

Date: 5 February 1990

STANDARD FORM (SF)

254

Architect-Engineer and Related Services Questionnaire

1. Firm Name / Business Address:

Haley & Aldrich, Inc.
58 Charles Street
Cambridge, MA 02141

2. Year Present Firm Established: 1957

3. Date Prepared: 22 February 1990

4 Specify type of ownership *and* check below, if applicable

Corporation

- A. Small Business
- B. Small Disadvantaged Business
- C. Woman-owned Business

1a. Submittal is for ☒ Parent Company ☐ Branch or Subsidiary Office

5. Name of Parent Company, if any:

5a. Former Parent Company Name(s), if any, and Year(s) Established:

Haley & Aldrich (Partnership)
Established 1957

6. Names of not more than Two Principals to Contact: Title / Telephone

1) Thomas K. Liu, President (617) 494-1606
2) David E. Thompson, Executive Vice President (617) 494-1606

7. Present Offices: City / State / Telephone / No. Personnel Each Office

7a. Total Personnel 283

58 Charles St.	622 Congress St.	110 National Drive	Pine Tree Place	Affiliate:
Cambridge, MA 02141	P. O. Box 4076	Glastonbury, CT 06033	360-8 Route 101	H&A of New York
(617) 494-1606	Portland, ME 04101	(203) 659-4248	Bedford, NH 03102	189 North Water St.
	(207) 772-7869		(603) 472-2054	Rochester, NY 14604
				(716) 232-7386
Personnel: 180	Personnel: 19	Personnel: 27	Personnel: 8	Personnel: 49

8. Personnel by Discipline: *(List each person only once, by primary function)*

66 Administrative	___ Electrical Engineers	___ Oceanographers	28 Environmental Geologists
___ Architects	___ Estimators	___ Planners: Urban/Regional	6 Environmental Engineers
___ Chemical Engineers	19 Geologists	___ Sanitary Engineers	1 Hydrogeochemist
___ Civil Engineers	16 Hydrologists ~~x geologists~~	87 Soils Engineers	11 Scientists
9 Construction Inspectors	___ Interior Designers	___ Specification Writers	6 Instrumentation Specialists
9 Draftsmen	___ Landscape Architects	___ Structural Engineers	22 Technicians- Explor./Lab.
___ Ecologists	___ Mechanical Engineers	___ Surveyors	2 Computer Secialists
___ Economists	___ Mining Engineers	___ Transportation Engineers	1 Librarian

9. Summary of Professional Services Fees Received: (Insert index number)

	Last 5 Years (most recent year first)				
	19 89	19 88	19 87	19 86	19 85
Direct Federal contract work, including overseas	2	2	2	5	2
All other domestic work	8	8	8	7	7
All other foreign work*	2	2	2	2	2

*Firms interested in foreign work, but without such experience, check here: ☐.

Ranges of Professional Services Fees

INDEX
1 Less than $100,000
2 $100,000 to $250,000
3 $250,000 to $500,000
4 $500,000 to $1 million
5 $1 million to $2 million
6 $2 million to $5 million
7 $5 million to $10 million
8 $10 million or greater

10. Profile of Firm's Project Experience, Last 5 Years

Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)
1) 011	37	1,859	11) 114	37	1,608	21)		
2) 025	59	3,098	12) 201	198	2,922	22)		
3) 033	12	942	13) 202	974	18,028	23)		
4) 042	20	5,382	14) 203	12	691	24)		
5) 046	69	9,839	15) 204	5	352	25)		
6) 087	21	3,847	16)			26)		
7) 095	21	470	17)			27)		
8) 097	1,644	32,975	18)			28)		
9) 106	44	1,900	19)			29)		
10) 109	23	3,554	20)			30)		

11. Project Examples, Last 5 Years

Profile Code	"P", "C", "JV", or "IE"	Project Name and Location	Owner Name and Address	Cost of Work (in thousands)	Completion Date (Actual or Estimated)
046	P	1 Geotechnical Design Services for the Central Artery/Third Harbor Tunnel Boston, MA	Mass. Department of Public Works Boston, MA	10,000	Underway
097	C	2 Geotechnical Design Services for Deer Island Residuals Facilities Boston, MA	Mass. Water Resources Authority Boston, MA	350	Underway
097 109	C	3 Geotechnical Services for Combined Sewer Overflow Facilities Plan Boston, MA	Mass. Water Resources Authority Boston, MA	300	Underway
202	P	4 Kodak Park West Remedial Investigation and Action Plan Rochester, NY	Eastman Kodak Company Rochester, NY	1,900	Underway
097	C	5 Geotechnical Services for U.S. Embassy Caracas, Venezuela	U.S. Department of State Washington, DC	109	Underway
033 046	C	6 Geotechnical Services for Fore River Bridge Replacement Portland, ME	Maine Department of Transportation Augusta, ME	420	Underway
033	P	7 Environmental Site Assessments of Industrial Site Cambridge, MA	W. R. Grace & Company Lexington, MA	800	Underway

097	C	8 Geotechnical Design and Construction Services for Cutter Financial Center Hartford, CT	Cutter Realty Group Hartford, CT	50	Underway
033	P	9 Oil and Hazardous Material Site Evaluation for Industrial Site Beverly, MA	Emhart Corporation Beverly, MA	1,500	Underway
011 046 097	C	10 Geotechnical and Geological Services for Nashua-Hudson Circumferential Highway Nashua, NH	New Hampshire Department of Public Works and Highways Concord, NH	900	Underway
201 202	P	11 Hydrogeological Studies and Remedial Investigations Upstate New York	Confidential Industrial Client Upstate New York	1,100	Underway
011 097	C	12 Geotechnical Services for Charter Oak Bridge Hartford, CT	Connecticut Department of Transportation Hartford, CT	640	Underway
033	P	13 Preliminary Site Assessment of Shopping Centers Various Locations - MA, CT, NJ, NY	The Stop & Shop Companies Braintree, MA	600	Underway
097 109	C	14 Geotechnical Design Services and Construction for Rehabilitation and Expansion of the Cairo Wastewater System, Cairo, Egypt	The Arab Republic of Egypt	1,250	Underway
097	C	15 Geotechnical and Geological Services for Emerson College New Campus Lawrence, MA	Emerson College Boston, MA	247	1989
202	P	16 Remedial Action Plans for Hazardous Waste Sites, Hanscom Air Force Base Bedford, MA	U.S. Army Corps of Engineers Omaha, NB	2,000	1989
097	C	17 Geotechnical Services and Construction Monitoring for 75 State Street Office Building and Parking Garage Boston, MA	The Beacon Companies Boston, MA	300	1989
097	C	18 Geotechnical Design and Construction Services for Suffolk County Jail Boston, MA	State of Massachusetts Department of Planning and Operations, Boston, MA	150	1988
097	C	19 Geotechnical Services for Boston Main and East Side Interceptor Boston, MA	Boston Water and Sewer Commission Boston, MA	250	1988

097 042	C	20 Geotechnical Services for Explosives Handling Wharf Kings Bay, GA	United States Army	276	1987
097 042	C	21 Geotechnical Services for Design and Construction of Rowes Wharf Development Boston, MA	The Beacon Companies Boston, MA	400	1987
097 109	C	22 Geotechnical Design and Construction Services for MBTA Southwest Corridor Project, Sections I and II Boston and Roxbury, MA	Mass. Bay Transportation Authority Boston, MA	1,160	1987
097	C	23 Geotechnical and Hydrogeological Services for Danbury Fair Danbury, CT	Wilmorite, Inc. Rochester, NY	396	1987
097 046 106	C	24 Geotechnical Engineering Services for I-295 Interchange Complex Portland, ME	Maine Department of Transportation Augusta, ME	61	1986
097 201	C	25 Geotechnical, Geological and Hydrogeological Services for Fort Drum Infrastructure II Project Watertown, NY	U.S. Army Corps of Engineers	1,000	1986
097 201	C	26 Geotechnical Services for Design and Construction of Hynes Convention Center, Prudential Center Boston, MA	Massachusetts Convention Center Boston, MA	962	1986
097 114 201	C	27 Hydrogeological and Geotechnical Services for IBM Headquarters Facility Somers, NY	IBM Corporation Somers, NY	1,192	1986
097 203	C	28 Geotechnical Services for Design and Construction of The Gallery at Harbor Place, Baltimore, MD	The Rouse Company Baltimore, MD	386	1986
202 114	P	29 Groundwater Contamination Study Dover, MA	Texaco, Inc. Cherry Hills, NJ	310	1985
114 201	P	30 Lime Waste Lagoon Closure Peabody, MA	Eastman-Gelatine Corporation Peabody, MA	125	1985

12. The foregoing is a statement of facts

Signature: _____ Typed Name and Title: Thomas K. Liu, President

Date: 22 February 1990

STANDARD FORM (SF) 254

Architect Engineer & related services Questionnaire

1. Firm Name / Business Address:

BRYANT ASSOCIATES, INC.
648 Beacon Street
Boston, MA 02215

1a. Submittal is for: [X] Parent Co. [ ] Branch Office

2. Year Present Firm Established: 13

3. Date Prepared: 10/05/89

4. Specify type of ownership and X below:
Corporation

4a. DUNS number:

X | A. Small Business
X | B. Small Disadvantaged Business
 | C. Woman-owned Business

5. Name of Parent Company, if any:
BRYANT ASSOCIATES, INC.

5a. Former Firm Name(s) if any, and Year(s) Established:
N/A

6. Names of not more than Two Principals to Contact: Title / Telephone
1). Jack D. Bryant, P.E., President (617)247-1800
2). Howard Goldberg, P.E., Vice President (617)247-1800

7. Present Offices: City / State / Telephone / No. Personnel Each Office

7a. Total Personnel 50

648 Beacon Street	(617)247-1800	50
Boston, MA 02215	(Home Office)	

8. Personnel by Discipline

5 Administrative	___ Electrical Engineers	___ Oceanographers	6 Technicians
___ Architects	1 Estimators	___ Planners: Urban/Regional	___
___ Chemical Engineers	___ Geologists	1 Sanitary Engineers	___
10 Civil Engineers	___ Hydrologists	___ Soils Engineers	___
2 Construction Inspectors	___ Interior Designers	1 Specification Writers	___
8 Draftsmen	___ Landscape Architects	___ Structural Engineers	___
___ Ecologists	___ Mechanical Engineers	15 Surveyors	___
___ Economists	___ Mining Engineers	1 Transportation Engineers	___

9. Summary of Professional Services Fees Received (insert index number)

Last 5 Years (most recent year first)

	1988	1987	1986	1985	1984
Direct Federal contract work, incl. overseas	2	1	1	1	1
All other domestic work	6	6	6	6	6
All other foreign work	___	___	___	___	___

* Firms interested in foreign work, but without such experience check here [ ]

Ranges of Professional Service Fees Index

1. Less than $100,000 2. $100,000 to $250,000
3. $250,000 to $500,000 4. $500,000 to $1 million
5. $1 to $2 million 6. $2 to $5 million
7. $5 to $10 million 8. $10 million or greater

Experience Profile Code Numbers
for use with Questions 10 and 11

001 Acoustics: Noise Abatement
002 Aerial Photogrammetry
003 Agricultural Development: Grain Storage: Farm Mechanization
004 Air Pollution control
005 Airports; Navaids; Airport Lighting; Aircraft Fueling
006 Airports; Terminals & Hangars; Freight Hdlg
007 Arctic Facilities
008 Auditoriums & Theatres
009 Automation; Controls; Instrumentation
010 Barracks; Dormitories
* 011 Bridges
012 Cemeteries (Planning & Relocation)
013 Chemical Processing & Storage
014 Churches; Chapels
015 Codes; Standards; Ordinances
016 Cold Storage; Refrigeration; Fast Freeze
017 Commercial Bldgs (low rise); Shopping Ctrs
018 Communications Systems; TV; Microwave
019 Computer Facilities; Computer Service
020 Conservation and Resource Management
* 021 Construction Management
022 Corrosion Control; Cathodic Protection; Electrolysis
** 023 Cost Estimating
024 Dams (Concrete; Arch)
025 Dams (Earth; Rock); Dikes; Levees
026 Desalinization (Process & Facilities)
027 Dining Halls; Clubs; Restaurants
028 Ecological & Archeological Investigations
029 Educational Facilities; Classrooms
030 Electronics
031 Elevators; Escalators; People-Movers
032 Energy Conservation; New Energy Sources
033 Environmental Impact Studies, Assessments or Statements
034 Fallout Shelters; Blast-Resistant Design
035 Field Houses; Gyms; Stadiums
036 Fire Protection
037 Fisheries; Fish Ladders
038 Forestry & Forest Products
039 Garages; Vehicle Mtce Facilities; Parking Decks
040 Gas Systems (Propane; Natural, Etc.)
041 Graphic Design
042 Harbors; Jetties; Piers; Ship Terminal Facs.
043 Heating; Ventilating; Air Conditioning
044 Health Systems Planning
044 Health Systems Planning
045 Highrise; Air-Rights-Type Buildings
*046 Hiway; Street; Airfield Paving; Parking Lot
047 Historical Preservation
048 Hospitals & Medical Facilities
049 Hotels; Motels
050 Housing (Residential, Multi-Family; Apartments; Condominiums)
051 Hydraulics & Pneumatics
052 Industrial Buildings; Manufacturing Plants
053 Industrial Process; Quality Control
054 Industrial Waste Treatment
055 Interior Design; Space Planning
056 Irrigation; Drainage
057 Judicial and Courtroom Facilities
058 Laboratories; Medical Research Facilities
059 Landscape Architecture
060 Libraries; Museums; Galleries
061 Lighting (Interiors; Display; Theatre, Etc.)
062 Lighting (Exteriors; Streets; Memorials; Athletic Fields, Etc.)
063 Materials Handling Sys; Conveyors; Sorters
064 Metallurgy
065 Microclimatology; Tropical Engineering
066 Military Design Standards
067 Mining & Mineralogy
068 Missile Facilities (Silos; Fuels; Transport)
069 Modular Systems Design; Pre-Fabricated Structures or Components
070 Naval Architecture; Off-Shore Platforms
071 Nuclear Facilities; Nuclear Shielding
072 Office Buildings; Industrial Parks
073 Oceanographic Engineering
074 Ordnance; Munitions; Special Weapons
075 Petroleum Exploration; Refining
076 Petroleum and Fuel (Storage & Distribution)
077 Pipelines (Cross-country - Liquid & Gas)
078 Planning (Community,Regional,Area & State)
* 079 Planning (Site, Installation, and Project)
080 Plumbing & Piping Design
081 Pneumatic Structures; Air-Support Buildings
082 Postal Facilities
083 Power Generation, Transmission, Distribution
084 Prisons & Correctional Facilities
085 Product, Machine & Equipment Design
086 Radar; Sonar; Radio & Radar Telescopes
* 087 Railroad; Rapid Transit
[illegible]
* 088 Recreation Facilities (Parks, Marinas, Etc.)
* 089 Rehabilitation (Buildings; Structures; Facilities)
090 Resource Recovery; Recycling
091 Radio Frequency Systems & Shieldings
092 Rivers; Canals; Waterways; Flood Control
093 Safety Engineering; Accident Studies; OSHA Studies
094 Security Systems; Intruder & Smoke Detection
095 Seismic Designs & Studies
* 096 Sewage Collection, Treatment and Disposal
097 Soils & Geologic Studies; Foundations
098 Solar Energy Utilization
099 Solid Wastes; Incineration; Land Fill
100 Special Environments; Clean Rooms, Etc.
101 Structural Design; Special Structures
* 102 Surveying; Platting; Mapping; Flood Plain Studies
103 Swimming Pools
104 Storm Water Handling & Facilities
105 Telephone Systems (Rural; Mobile; Intercom, Etc.)
106 Testing & Inspection Services
107 Traffic & Transportation Engineering
108 Towers (Self-Supporting & Guyed Systems)
109 Tunnels & Subways
* 110 Urban Renewal; Community Development
111 Utilities (Gas & Steam)
112 Value Analysis; Life-Cycle Costing
113 Warehouses & Depots
114 Water Resources; Hydrology; Ground Water
* 115 Water Supply, Treatment
116 Wind Tunnels; Research/Testing Facilities Design
117 Zoning; Land Use Studies
* 203 Site Engineering
** All Design Projects Estimated In-house

10. Profile of Firm's Project Experience, Last 5 Years

NOTE: 023 - All Design Projects Estimated In-House

	Profile Code	Number of Projects	Total Gross Fees (in thousands)		Profile Code	Number of Projects	Total Gross Fees (in thousands)		Profile Code	Number of Projects	Total Gross Fees (in thousands)
1)	11	2	154	11)		0	0	21)		0	0
2)	021	19	2941	12)		0	0	22)		0	0
3)		0	0	13)	079	5	38	23)		0	0
4)		0	0	14)	087	21	752	24)		0	0
5)		0	0	15)	0	0	0	25)	104	18	165
6)	046	34	3290	16)	088	8	235	26)	110	11	280
7)		0	0	17)	096	34	396	27)	115	14	185
8)		0	0	18)		0	0	28)	203	44	897
9)		0	0	19)		0	0	29)		0	0
10)		0	0	20)	102	133	3127	30)		0	0

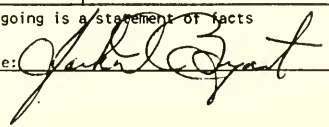
11. Project Examples, Last 5 Years

Profile Code	"P", "C" "J"or "I"	Project Name and Location	Owner Name and Address	Cost of Work (in thousands)	Completion Date (Actual or Estimated)
021	P	1 Northern Avenue / Commonwealth Flats S.S. Interceptor Summer Street S.S. Pumping Station South Boston, MA	Massachusetts Port Authority Ten Park Plaza Boston, MA	4450	1986
021	P	2 Expansion of Toll Facilities, Inter. No. 34 New York State Thruway Canastota, New York	New York State Thruway Authority 200 Southern Boulevard Albany, New York	200	1986
021	C	3 Rehabilitation of Riverside Drive Viaduct 125th - 135th Streets New York City, New York	New York State Department of Transportation 1220 Washington Avenue Albany, New York	37000	1986
046	P	4 Route 2 Widening and Safety Improvements 2+/- miles Highway Reconstruction Lexington / Concord, MA	Massachusetts Department of Public Works Ten Park Plaza Boston, Massachusetts	4800	1986
046	P	5 Northern Avenue Reconstruction Phases I & II / III 1.5+/- miles - Urban Waterfront with Construction Inspection South Boston, MA	Massachusetts Port Authority Ten Park Plaza Boston, Massachusetts	4800	1986
046	P	6 Route 2 Reconstruction 4.5+/- miles - Highway Reconstruction Cabot / Danville, Vermont	Vermont Agency of Transportation State Office Building Montpelier, Vermont	5200	1986
079	P	7 Boston Fish Pier Facility Study Northern Avenue South Boston, Massachusetts	Massachusetts Port Authority Ten Park Plaza Boston, Massachusetts	10	1983

088	P	8 Franklin Field Playground / Park Athletic Fields, Childrens Playlots, etc. Boston, Massachusetts	Boston Parks and Recreation Department 294 Washington Street Boston, Massachusetts	200	1983
096	C	9 Milford Sewer System Rehabilitation Milford, Massachusetts	Town of Milford Milford, Massachusetts	50	1982
096	C	10 Wastewater Treatment Plant Windsor Locks, Connecticut	Town of Windsor Locks Windsor Locks, Connecticut	44	1983
096	P	11 Deer Island Treatment Facilities Plant Early Site Preparation Winthrop, Massachusetts	Massachusetts Water Resources Authority Charlestown Navy Yard 100 First Avenue Boston, Massachusetts	20000	1989
104	C	12 Moran Containerport Expansion Chelsea, Massachusetts	Massachusetts Port Authority Ten Park Plaza Boston, Massachusetts	8800	1989
115	P	13 Slater Street Water Main Webster, Massachusetts	Town of Webster Office of Community Development P.O. Box 207 Webster, Massachusetts	190	1985
011	C	14 Raymond Baldwin Bridge (I-95) Proposed CTDOT Project 105-130 Old Saybrook / Old Lyme, CT	Connecticut Department of Transportation 24 Wolcott Hill Road Wethersfield, CT	30000	1989
021	C	15 East Berkeley Street Interceptor Separation with Street Reconstruction Contract SD-3 South End, Boston, MA	Boston Water and Sewer Commission 425 Summer Street Boston, MA	5000	1987
046	C	16 Southern Tier Expressway, Route 17 Preliminary Design Corning, New York	New York State Department of Transportation 1220 Washington Avenue Albany, New York	5000	1988
046	P	17 Reconstruction of Pawtucket Boulevard 1.5+/- miles - Urban Highway Lowell, MA	City of Lowell John F. Kennedy Civil Center Lowell, MA	3600	1986
046	C	18 Interstate 291 - 2+/- miles Highway and Bridge, new South Windsor, Ct	Connecticut Department of Transportation 24 Wolcott Hill Road Wethersfield, CT	18000	1988
046	P	19 Rockville / Alton Road Reconstruction 3.2+/- miles - Rural Highway Hopkinton, Rhode Island	Rhode Island Department of Transportation State Office Building Providence, Rhode Island	2500	1988

087	C	20 Design Section N760 Rapid Transit Reconstruction Atlanta, Georgia	Metropolitan Atlanta Rapid Transit Authority Peachtree Centre Atlanta, Georgia	25000	1986
087	C	21 Systemwide Track Improvement Program, Track Signalization, etc. @ various areas Boston, Massachusetts	Massachusetts Bay Transportation Authority Ten Park Plaza Boston, Massachusetts	40000	1985
102	C	22 I-84 / I-91 Interchange Topographic & Bridge Surveys Hartford, Connecticut	Connecticut Department of Transportation 24 Wolcott Hill Road Wethersfield, Connecticut	330	1984
102	C	23 Central Artery - North Area Topographic and Right-of-Way Charlestown, Massachusetts	Massachusetts Department of Public Works Ten Park Plaza Boston, Massachusetts	370	1987
102	C	24 Old Colony Railroad Rehabilitation Topographic, Hydrographic, Takings, Right-of-Way, etc. Various Commuter Railroad Branches	Massachusetts Bay Transportation Authority Ten Park Plaza Boston, Massachusetts	100	1987
102	P	25 Annual Survey Services per Work Order Location, Invert, Easements, Right-of-Way Eastern Massachusetts	Massachusetts Water Resources Authority Charlestown Navy Yard 100 First Avenue Boston, Massachusetts	50	1989
102	C	26 Bowdoin / Charles Conn. - Red Line Topographic, Utilities and Tunnel and Right-of-Way Boston, Massachusetts	Massachusetts Bay Transportation Authority Ten Park Plaza Boston, Massachusetts	189	1987
110	P	27 One Franklin Place Downtown High Rise Development Boston, Massachusetts	Lincoln Property Company 265 Franklin Street Boston, Massachusetts	75	1987
203	P	28 Hingham Condominium Development 106 Lot Subdivision - All Site Work Hingham, Massachusetts	Patrick F. Walsh Company 110 West Squantum Street North Quincy, Massachusetts	30000	1989
203	C	29 JFK / University of Massachusetts Red Line Station Survey, Grading & Drainage, Water and Sewer Boston, Massachusetts	Massachusetts Bay Transportation Authority Ten Park Plaza Boston, Massachusetts	16000	1988
203	C	30 Bristol County Jail / House of Correction Grading, Drainage, Water and Sewer Dartmouth, Massachusetts	Massachusetts Division of Capital Planning and Operations One Ashburton Place Boston, Massachusetts	80	1989

The foregoing is a statement of facts

Signature: 

Typed Name and Title: Jack D. Bryant, P.E., President

Date: October 5, 1989

SECTION IV

CLIENT REFERENCES

CLIENT REFERENCES

Paul C. K. Lu & Associates

MASSPORT AUTHORITY, Commonwealth of Massachusetts

Ms. Lois Champy, AIA
Project Manager
Tel: 617-973-5346

BOSTON PUBLIC FACILITIES DEPARTMENT, City of Boston

Mr. Stephen Rustelka, P.E.
Senior Project Manager
Tel: 617-725-4931

BOSTON PARK & RECREATION DEPARTMENT, City of Boston

Mr. Stanley Ivan, P.E.
Chief Engineer
Tel: 617-725-3330

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, Commonwealth of Massachusetts

Mr. James Baecker
Contracting Officer / Project Manager
Tel: 617-727-3160

CITY OF LOWELL, MA

Mr. John Tavares
Program Development Director
Tel: 617-454-8821

CITY OF CONCORD, MA

Mr. Danner DeStephano
Recreation Director
Tel: 617-369-6460

CLIENT REFERENCES

Parsons Brinckerhoff, Inc.

75 State Street Development
Boston, Massachusetts

Mr. David Lash
Sr. Project Manager
The Beacon Companies
Three Center Plaza
Boston, MA 02108
(617) 742-8800

One Lincln Street Development Boston, Massachusetts

Mr. Paul Marcus
Project Manager
Metropolitan/Columbia Plaza Venture
125 Summer Street
Boston, MA 02110
(617) 951-2522

Copley Place Development
Boston, Massachusetts

Mr. Rudi Umsheid
Sr. Vice President
JMB Urban
One Copley Place - Suite 600
Boston, MA 02201
(617) 262-6600

Post Office Square Garage/Park
Boston, Massachusetts

Mr. Robert Weinberg
President
Friends of Post Office Square
50 Federal St.
Boston, MA 02110
(617) 423-1500

SL

ull and Lee, Inc
rchitects and Planners
3 Chauncy Street Suite 1100
oston, MA 02111
17 426 0406
X 617 426 2835

STULL AND LEE CLIENTS

Bank of Boston
The Beacon Companies
Boston Department of Public Facilities
Boston Housing Authority
Boston Redevelopment Authority
Cambridge Street Community Development Corporation
Campeau Massachusetts
The Chiofaro Company
Cruz Development Corporation
Department of the Army, Corp of Engineers
Development Corporation of America
Digital Equipment Corporation
Charles R. Drew Postgraduate Medical School, Los Angeles
Economic Development and Industrial Commission of Boston
Florida A&M University
Greater Boston Chamber of Commerce
Greater Boston Development Corporation
Harvard University
Hebrew Rehabilitation Center for the Aged
Housing Innovations, Inc
I.B.M.
Judge Baker Children's Center
Kansas City Planning & Urban Design Division, City Development Department
Liberty Trust (Store 24)
Logue Boston
Massachusetts Bay Transportation Authority
Massachusetts Department of Capital Planning and Operations
Massachusetts Port Authority
Merrimack Valley Rapid Transit Authority
Metropolitan Structures
National Park Service
New Haven School Committee
New York City Transit Authrity
New York State Urban Development Corporation
North Cambridge Cooperative Bank
Northeastern University
Providence Housing Authority
Sonesta Corporation
Southern California Rapid Transit District
Stone & Webster Engineering Company, Inc.
Tenants Development Corporation
United South End Settlements
United States Coast Guard

7799 03